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## SEARCH REQUEST FORM

11-771

Requestor's  
Name: \_\_\_\_\_Serial  
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Date: \_\_\_\_\_

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Art Unit: \_\_\_\_\_

10E03

**Search Topic:**

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

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Date completed: \_\_\_\_\_

12-1-98

Searcher: \_\_\_\_\_

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Terminal time: \_\_\_\_\_

10

Elapsed time: \_\_\_\_\_

prep 15

CPU time: \_\_\_\_\_

Total time: \_\_\_\_\_

Number of Searches: \_\_\_\_\_

Number of Databases: \_\_\_\_\_

11

**Search Site**

\_\_\_\_\_ STIC

\_\_\_\_\_ CM-1

\_\_\_\_\_ Pre-S

**Type of Search**

\_\_\_\_\_ 1 N.A. Sequence

\_\_\_\_\_ 2 A.A. Sequence

\_\_\_\_\_ Structure

\_\_\_\_\_ Bibliographic

**Vendors**

\_\_\_\_\_ IG

\_\_\_\_\_ STN

\_\_\_\_\_ Dialog

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\_\_\_\_\_ MPI Other

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 WISEMAN (TM)  
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Msrch\_p protein - protein database search, using Smith-Waterman algorithm

Run on: Mon Nov 30 13:10:04 1998; MasPar time 14.06 Seconds

Tabular output not generated. 782.765 Million cell updates/sec

Title: >US-09-033-662-2  
 Description: (1-221) from US09033662.pep  
 Perfect Score: 221  
 Sequence: 1 MRCRISGRPPAPGVPAQA.....COGRGLNDTCRCRLRR 221

Scoring table: TABLE uniprottable  
 Gap 60

Searched: 165420 seqs, 48795644 residues

Post-processing: Minimum Match 0%  
 Listing first 100 summaries

Database: sptrembl6  
 1:sp-archaea 2:sp-bacteria 3:sp-fungi 4:sp-human  
 5:sp-invertebrate 6:sp-mammal 7:sp-mhc 8:sp-organelle  
 9:sp-phase 10:sp-plant 11:sp-rodent 12:sp-unclassified  
 13:sp-vertebrate 14:sp-virus

Statistics: Mean 3.343; Variance 0.421; Scale 7.933

Pred. No. is the number of results predicted by chance to have a  
 score greater than or equal to the score of the result being printed,  
 and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description	Pred. No.
1	149	67.4	207	4	VEGF RELATED FACTOR IS	0.00e+00
2	39	17.6	207	11	VASCULAR ENDOTHELIAL G	3.35e-92
3	26	11.8	116	11	VASCULAR ENDOTHELIAL G	6.91e-52
4	23	10.4	150	11	VASCULAR ENDOTHELIAL G	6.67e-43
5	10	4.5	148	13	VASCULAR ENDOTHELIAL G	3.03e-07
6	10	4.5	194	13	VASCULAR ENDOTHELIAL G	3.03e-07
7	8	3.6	532	4	SODIUM CHANNEL	8.91e-03
8	7	3.2	96	4	VASCULAR ENDOTHELIAL G	9.02e-01
9	7	3.2	106	4	NEUROGENIC LOCUS NOTCH	9.02e-01
10	7	3.2	189	5	ZK899.3	9.02e-01
11	7	3.2	193	5	CORE PROTEIN (FRAGMENT	9.02e-01
12	7	3.2	207	2	NITRILE HYDROLASE ALPH	9.02e-01
13	7	3.2	207	14	ORF36L	9.02e-01
14	7	3.2	221	14	HEXON-ASSOCIATED STRUC	9.02e-01
15	7	3.2	232	4	VASCULAR ENDOTHELIAL G	9.02e-01
16	7	3.2	276	2	PUTATIVE REPLICATION P	9.02e-01
17	7	3.2	305	10	LEUCINE RICH REPEAT-LI	9.02e-01
18	7	3.2	309	2	LYASE	9.02e-01
19	7	3.2	479	11	ABL3H BINDING PROTEIN	9.02e-01
20	7	3.2	489	2	AKLAVINONE C-11 HYDROX	9.02e-01

21	7	3.2	508	2	PLCC	9.02e-01
22	7	3.2	641	2	OUTER MEMBRANE PROTEIN	9.02e-01
23	7	3.2	691	2	HYPOTHETICAL 75.7 KD P	9.02e-01
24	7	3.2	757	4	SKELTAL MUSCLE ABUNDA	9.02e-01
25	7	3.2	901	10	HYPOTHETICAL 101.5 KD	9.02e-01
26	7	3.2	920	4	THYROID HORMONE RECEPT	9.02e-01
27	7	3.2	1149	4	51C PROTEIN	9.02e-01
28	7	3.2	1258	4	INOSITOL POLYPHOSPHATE	9.02e-01
29	7	3.2	1529	4	KIAA0304	9.02e-01
30	7	3.2	1851	5	HYPOTHETICAL PROTEIN C	9.02e-01
31	7	3.2	2108	5	POLYKETIDE SYNTHASE	9.02e-01
32	7	3.2	2160	5	ZC101.2D (FRAGMENT)	9.02e-01
33	7	3.2	2347	5	ZC101.2A (FRAGMENT)	9.02e-01
34	7	3.2	29	5	OMEGA-CONOTOXIN MVID	5.62e+01
35	6	2.7	68	14	REVERSE TRANSCRIPTASE	5.62e+01
36	6	2.7	75	6	VASCULAR ENDOTHELIAL G	5.62e+01
37	6	2.7	81	2	TRNA PSEUDOURIDINE SYN	5.62e+01
38	6	2.7	87	13	NI-HEART DEVELOPMENTAL	5.62e+01
39	6	2.7	103	2	ORF12	5.62e+01
40	6	2.7	106	2	CORE PROTEIN (FRAGMENT	5.62e+01
41	6	2.7	120	14	NEF PROTEIN (FRAGMENT)	5.62e+01
42	6	2.7	121	10	ACYL CARRIER PROTEIN	5.62e+01
43	6	2.7	125	14	GAG PROTEIN (FRAGMENT)	5.62e+01
44	6	2.7	125	14	GAG PROTEIN (FRAGMENT)	5.62e+01
45	6	2.7	133	2	HYPOTHETICAL 13.4 KD P	5.62e+01
46	6	2.7	151	14	MOVEMENT PROTEIN	5.62e+01
47	6	2.7	202	14	NEF PROTEIN	5.62e+01
48	6	2.7	204	11	CODD FOR BY C. ELEGAN	5.62e+01
49	6	2.7	204	11	TRAI	5.62e+01
50	6	2.7	206	14	NEF PROTEIN	5.62e+01
51	6	2.7	206	14	NEF GENE (STRAIN KU9)	5.62e+01
52	6	2.7	206	14	NEF GENE (STRAIN KU10)	5.62e+01
53	6	2.7	206	14	NEF GENE (STRAIN KU5)	5.62e+01
54	6	2.7	207	14	NEF PROTEIN	5.62e+01
55	6	2.7	209	14	NEF PROTEIN	5.62e+01
56	6	2.7	209	14	NEF PROTEIN	5.62e+01
57	6	2.7	209	14	NEF PROTEIN	5.62e+01
58	6	2.7	209	14	NEF PROTEIN	5.62e+01
59	6	2.7	234	11	ARGININE SPECIFIC THIO	5.62e+01
60	6	2.7	234	11	PHOSPHOPROTEIN	5.62e+01
61	6	2.7	241	14	PHOSPHOPROTEIN (P)	5.62e+01
62	6	2.7	241	14	PHOSPHOPROTEIN (P)	5.62e+01
63	6	2.7	241	14	PHOSPHOPROTEIN (P)	5.62e+01
64	6	2.7	241	14	PHOSPHOPROTEIN (P)	5.62e+01
65	6	2.7	254	2	COAT PROTEIN	5.62e+01
66	6	2.7	272	14	HYPOTHETICAL 25.8 KD P	5.62e+01
67	6	2.7	312	14	POLYPROTEIN (FRAGMENTS	5.62e+01
68	6	2.7	326	5	SGG1	5.62e+01
69	6	2.7	327	5	SIMILAR TO CUTICULAR C	5.62e+01
70	6	2.7	334	5	SIMILAR TO CUTICULAR COL	5.62e+01
71	6	2.7	339	2	HYPOTHETICAL PROTEIN T	5.62e+01
72	6	2.7	340	5	PLASMIN GENES TRAI - T	5.62e+01
73	6	2.7	358	11	F5612.5	5.62e+01
74	6	2.7	398	5	VASCULAR ENDOTHELIAL G	5.62e+01
75	6	2.7	412	5	RRM-TYPE RNA BINDING P	5.62e+01
76	6	2.7	412	5	3-KETO-ACYL-COA THIOIA	5.62e+01
77	6	2.7	442	14	HERPES SIMPLEX VIRUS T	5.62e+01
78	6	2.7	451	14	I-FLICE ISOFORM 4	5.62e+01
79	6	2.7	473	5	NUCLEOSID PROTEIN	5.62e+01
80	6	2.7	480	4	TOR10.3	5.62e+01
81	6	2.7	493	14	CASPER	5.62e+01
82	6	2.7	533	11	DNA HELICASE	5.62e+01
83	6	2.7	552	14	RETINAL PIGMENT EPTHE	5.62e+01
84	6	2.7	573	14	PP-D13	5.62e+01
85	6	2.7	584	2	CHITINASE	5.62e+01
86	6	2.7	620	2	GROUP II INTRON-CONTAI	5.62e+01
87	6	2.7	690	5	OXALOACETATE DECARBOXY	5.62e+01
88	6	2.7	730	5	ZC247.2	5.62e+01
89	6	2.7	738	5	F32D1.10 PROTEIN	5.62e+01
90	6	2.7	743	11	CC4.1 (FRAGMENT)	5.62e+01
91	6	2.7	744	5	NAGUJ (EC 3.2.1.50) (A	5.62e+01
92	6	2.7	749	2	BOWEL	5.62e+01
93	6	2.7	1065	5	SENSORY TRANSDUCTION H	5.62e+01
					PSOA	5.62e+01

## ALIGNMENTS

94	6	2.7	1240	4	015030	KIAA0314 (FRAGMENT).	5.62e+01
95	6	2.7	1420	2	052666	CORE PROTEIN.	5.62e+01
96	6	2.7	1486	4	014637	LAMININ ALPHA 3B CHAIN	5.62e+01
97	6	2.7	1849	4	014572	PAC CLONE 248015 FROM	5.62e+01
98	6	2.7	2864	14	069422	POLYPEPTIDE.	5.62e+01
99	6	2.7	3895	14	065464	POLYPEPTIDE.	5.62e+01
100	6	2.7	4957	4	014687	ALR.	5.62e+01

RESULT 1  
ID 016528 PRELIMINARY: PRT: 207 AA.

AC 01-NOV-1996 (TREMBLREL. 01, CREATED)  
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)  
DE 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)  
VEGF RELATED FACTOR ISOFORM VRF186 PRECURSOR.  
GN VRF OR VEGF-B.  
OS HOMO SAPIENS (HUMAN).  
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
OC EUTHERIA; PRIMATES.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE-BRAIN;  
RA GRIMMOND S., LAGERCRANTZ J., DRINKWATER C., SILINS G., TOWNSON S.,  
RA POLLOCK P., GOTLEY D., CARSON E., RAKAR S., NORDENSKJOLD M., WARD L.,  
RA HAYWARD N., WEBER G.;  
RN GENOME RES. 6:122-129(1996).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE-FIBROSARCOMA HT-1080;  
RX MEDLINE: 96197355.  
RA OLOFSSON B.;  
RN PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).  
RN [3]  
RP SEQUENCE FROM N.A.  
RC TISSUE-FIBROSARCOMA HT-1080;  
RX MEDLINE: 96325041.  
RA OLOFSSON B., PAJUSOLA K., VON EULER G., CHILOV D., ALTITALO K.,  
RA ERIKSSON U.;  
RN J. BIOL. CHEM. 271:19310-19317(1996).  
DR EMBL: U43368; G1216386; -;  
DR EMBL: U52819; G1488259; -;  
DR PROSITE: PS00249; PDGF; 1.  
DR PFAM: PF00341; PDGF.  
KV SIGNAL.  
FT CHAIN 1 21 POTENTIAL.  
FT SIGNAL 22 207 VEGF RELATED FACTOR ISOFORM VRF186.  
SO SEQUENCE 207 AA: 21602 MW; 16BDF6F1 CRC32;

Query Match 67.4%; Score 149; DB 4; Length 207;  
Best Local Similarity 100.0%; Pred. No. 0.00e+00;  
Matches 149; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 18 PAQAFVSPDPAFGHQRKVVSWIDVYTRATQCPREVYVPLTVEIMGTANQOLVPSCTVQR 77  
QY 17 PAQAFVSPDPAFGHQRKVVSWIDVYTRATQCPREVYVPLTVEIMGTANQOLVPSCTVQR 76  
DB 78 CGGCCPDGLEGVPTGQHOVQMOILMIRPSSQGLGEMSLSEHSCQECRKKKDSAVKPD 137  
QY 77 CGGCCPDGLEGVPTGQHOVQMOILMIRPSSQGLGEMSLSEHSCQECRKKKDSAVKPD 136  
DB 138 AATPHRPPQSRVPGMDSPAGAPSPADIT 166  
QY 137 AATPHRPPQSRVPGMDSPAGAPSPADIT 165

RESULT 2  
ID 064290 PRELIMINARY: PRT: 207 AA.  
AC 064290;  
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)  
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)

DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)  
DE VASCULAR ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN  
DE (VASCULAR ENDOTHELIAL GROWTH FACTOR B 186).  
GN VRF OR VEGF-B.  
OS MUS MUSCULUS (MOUSE).  
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
OC EUTHERIA; RODENTIA.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE-HEART;  
RX MEDLINE: 96197355.  
RA OLOFSSON B.;  
RN PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE-HEART;  
RX MEDLINE: 96325041.  
RA OLOFSSON B., PAJUSOLA K., VON EULER G., CHILOV D., ALTITALO K.,  
RA ERIKSSON U.;  
RN J. BIOL. CHEM. 271:19310-19317(1996).  
RN [3]  
RP SEQUENCE FROM N.A.  
RC TISSUE-WHOLE BRAIN;  
RX MEDLINE: 96183052.  
RA TOWNSON S., LAGERCRANTZ J., GRIMMOND S., SILINS G., NORDENSKJOLD M.,  
RA WEBER G., HAYWARD N.K.;  
RN BIOCHEM. BIOPHYS. RES. COMMUN. 220:922-928(1996).  
DR EMBL: U52820; G1488261; -;  
DR EMBL: U43836; G1314334; -;  
DR MGD: MGI:106199; VRF.  
DR PROSITE: PS00249; PDGF; 1.  
DR PFAM: PF00341; PDGF.  
SO SEQUENCE 207 AA: 21914 MW; 4FB6C405 CRC32;

Query Match 17.6%; Score 39; DB 11; Length 207;  
Best Local Similarity 100.0%; Pred. No. 3.35e-92;  
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 66 KOLVPSCTVORCGCCPDGLEGVPTGQHOVQMOILM 104  
QY 65 KOLVPSCTVORCGCCPDGLEGVPTGQHOVQMOILM 103

RESULT 3  
ID 035485 PRELIMINARY: PRT: 116 AA.  
AC 035485;  
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)  
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)  
DE 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)  
DE VASCULAR ENDOTHELIAL GROWTH FACTOR B 186 PRECURSOR (FRAGMENT).  
OS RATTUS NORVEGICUS (RAT).  
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
OC EUTHERIA; RODENTIA.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-SPRAGUE-DAWLEY; TISSUE-PLACENTA;  
RA MANDRIOTA S.J., PEPPER M.S.;  
RN SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.  
DR EMBL: AF032925; G2641622; -;  
DR PROSITE: PS00249; PDGF; 1.  
DR PFAM: PF00341; PDGF.  
FT NON\_TER 1 1  
FT NON\_TER 116 116  
SO SEQUENCE 116 AA: 12743 MW; 1C6E2733 CRC32;

Query Match 11.8%; Score 26; DB 11; Length 116;  
Best Local Similarity 100.0%; Pred. No. 6.91e-52;  
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 16 KOLVPSCTVORCGCCPDGLEGVPTGQHOVQMOILM 41  
QY 65 KOLVPSCTVORCGCCPDGLEGVPTGQHOVQMOILM 40

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RESULT 4
ID 054881: PRELIMINARY: PRT: 150 AA.
AC 054881:
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR B (FRAGMENT).
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
CC EUTHERIA; RODENTIA.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=HEART;
RA WEIL J., ESCHENHAGEN T., MITTMANN C., SCHOLZ H.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: AF022952; G2766602; -.
DR PROSITE: PS00249; PDGF; 1.
FT NON_TER 1 150
SQ SEQUENCE 150 AA; 17243 MW; D088D4D3 CRC32;

Query Match 10.4%; Score 23; DB 11; Length 150;
Best Local Similarity 100.0%; Pred. No. 6.67e-43;
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 38 VPSCTVORCGCCPDGECVP 60
OY 68 VPSCTVORCGCCPDGECVP 90

RESULT 5
ID 042571: PRELIMINARY: PRT: 148 AA.
AC 042571:
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR 122.
GN VEGF.
OS XENOPUS LAEVIS (AFRICAN CLAWED FROG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; AMPHIBIA; ANURA.
RN [1]
RP SEQUENCE FROM N.A.
RA CLEVERER O., TONISSEN K.F., SAHA M.S., KRIEG P.A.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: AF008593; G2271033; -.
DR PROSITE: PS00249; PDGF; 1.
DR PFAM: PF00341; PDGF; 1.
SQ SEQUENCE 148 AA; 17234 MW; 83E936CE CRC32;

Query Match 4.5%; Score 10; DB 13; Length 148;
Best Local Similarity 100.0%; Pred. No. 3.03e-07;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 125 HSQCCECRPK 134
OY 118 HSQCCECRPK 127

RESULT 6
ID 042572: PRELIMINARY: PRT: 194 AA.
AC 042572:
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR 196.
GN VEGF.
OS XENOPUS LAEVIS (AFRICAN CLAWED FROG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; AMPHIBIA; ANURA.
RN [1]
RP SEQUENCE FROM N.A.
RA CLEVERER O., TONISSEN K.F., SAHA M.S., KRIEG P.A.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
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DR EMBL: AF008594; G2271035; -.
DR PROSITE: PS00249; PDGF; 1.
DR PFAM: PF00341; PDGF.
SQ SEQUENCE 194 AA; 22672 MW; 74B8253A CRC32;

Query Match 4.5%; Score 10; DB 13; Length 194;
Best Local Similarity 100.0%; Pred. No. 3.03e-07;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 125 HSQCCECRPK 134
OY 118 HSQCCECRPK 127

RESULT 7
ID 060263: PRELIMINARY: PRT: 532 AA.
AC 060263:
DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE SODIUM CHANNEL.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
CC EUTHERIA; PRIMATES.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=TESTIS;
RA ISHIBASHI K., MARUMO F.;
RL BIOCHEM. BIOPHYS. RES. COMMUN. 245:589-593(1998).
DR EMBL: AB010575; D1026837; -.
DR IONIC CHANNEL.
SQ SEQUENCE 532 AA; 59154 MW; 115D0C62 CRC32;

Query Match 3.6%; Score 8; DB 4; Length 532;
Best Local Similarity 100.0%; Pred. No. 8.91e-03;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 130 GRPAPPG 137
OY 8 GRPAPPG 15

RESULT 8
ID 060720: PRELIMINARY: PRT: 96 AA.
AC 060720:
DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR 183 (FRAGMENT).
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
CC EUTHERIA; PRIMATES.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=RETINA;
RA JINGJING L., ROQUE R.S.;
RL SUBMITTED (MAY-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: AF062645; G3139081; -.
FT NON_TER 1 1
SQ SEQUENCE 96 AA; 11314 MW; D21D2474 CRC32;

Query Match 3.2%; Score 7; DB 4; Length 96;
Best Local Similarity 100.0%; Pred. No. 9.02e-01;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 15 CECRPRK 21
OY 121 CECRPRK 127

RESULT 9
ID 014962: PRELIMINARY: PRT: 106 AA.
AC 014962:
```

01-JUL-1997 (TREMBLREL. 04, CREATED)  
 DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)  
 DT 01-JUL-1997 (TREMBLREL. 04, LAST ANNOTATION UPDATE)  
 DE NEUROGENIC LOCUS NOTCH 3 PROTEIN (FRAGMENT).  
 GN NOTCH3.  
 OS HOMO SAPIENS (HUMAN).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUETHERIA; PRIMATES.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 95213014.  
 RA LARSSON C., LARDELLI M., WHITE I., LENDAHN U.;  
 RL GENOMICS 24:253-258(1994).  
 CC -1- FUNCTION: NOTCH 1, 2 AND 3 PLAY A COMBINATIONAL ROLE DURING  
 CC VARIOUS CELL FATE DECISIONS AND MORPHOLOGICAL MOVEMENTS IN THE  
 CC DEVELOPING CNS AND PROBABLY OTHER REGIONS OF THE EMBRYO.  
 CC -1- SIMILARITY: TO OTHER NOTCH-TYPE PROTEINS.  
 DR EMBL: X79439: 6763116; -  
 FT NON\_TER 1  
 FT NON\_TER 1  
 FT SEQUENCE 106 AA; 11071 MW; B403D011 CRC32;  
 SQ

Query Match 3.2%; Score 7; DB 4; Length 106;  
 Best Local Similarity 100.0%; Pred. No. 9.02e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 72 RPOPRSV 78  
 |||||  
 QY 143 RPOPRSV 149

RESULT 10  
 ID 023663 PRELIMINARY; PRT; 189 AA.  
 AC 023663;  
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)  
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)  
 DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)  
 DE 2K899.3.  
 OS CAENORHABDITIS ELEGANS.  
 OC EUKARYOTA; METAZOA; ACOELOMATES; NEMATODA; SECERNENTEA; RHABDITIDA.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX KERSHAW J.;  
 RL SUBMITTED (SEP-1994) TO EMBL/GENBANK/DBJ DATA BANKS.  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RA WILSON R., AINSICOUGH R., ANDERSON K., BAYNES C., BERKS M., BONFIELD J.,  
 RA BURTON J., CONNELL M., COPESEY T., COOPER J., COULSON A., CRAYTON M.,  
 RA DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L., GARDNER A., GREEN P.,  
 RA HAWKINS T., HILLIER L., JIER M., JOHNSTON L., JONES M., KERSHAW J.,  
 RA KIRSTEN J., LAISTER N., LATREILLE P., LIGHTING J., LLOYD C.,  
 RA MCMURRAY A., MORTIMORE B., O'CALLAGHAN M., PARSONS J., PERCY C.,  
 RA RIFKEN L., ROOPRA A., SAUNDERS D., SHOWNKEEN R., SHALDON N., SMITH A.,  
 RA SONNHAMMER E., STADEN R., SULSTON J., THIERRY-MIEG J., THOMAS K.,  
 RA VAUDIN M., VAOUGHAN K., WATERSTON R., WATSON A., WEINSTOCK L.,  
 RA WILKINSON-SPROAT J., WOHLDMAN P.;  
 RL NATURE 368:32-38(1994).  
 DR EMBL: 237140: E257675; -  
 SQ SEQUENCE 189 AA; 21101 MW; 0AB35BDE CRC32;

Query Match 3.2%; Score 7; DB 5; Length 189;  
 Best Local Similarity 100.0%; Pred. No. 9.02e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 80 VPLTEL 86  
 |||||  
 QY 53 VPLTEL 59

RESULT 11  
 ID 052677 PRELIMINARY; PRT; 193 AA.  
 AC 052677;

01-JUN-1998 (TREMBLREL. 06, CREATED)  
 DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)  
 DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)  
 DE CORE PROTEIN (FRAGMENT).  
 OS ESCHERICHIA COLI.  
 OC PROKARYOTA; GRACILICUTES; SCOTOBACTERIA; FACULTATIVELY ANAEROBIC RODS;  
 OC ENTEROBACTERIACEAE.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX STRAIN-EC45;  
 RA WANG Y.-D., ZHAO S., HILL C.W.;  
 RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.  
 DR EMBL: AF044505: G2921769; -  
 FT NON\_TER 1  
 FT NON\_TER 1  
 FT SEQUENCE 193 AA; 21272 MW; 9DB5CDB8 CRC32;  
 SQ

Query Match 3.2%; Score 7; DB 2; Length 193;  
 Best Local Similarity 100.0%; Pred. No. 9.02e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 155 PAPPGVP 161  
 |||||  
 QY 11 PAPPGVP 17

RESULT 12  
 ID 052737 PRELIMINARY; PRT; 207 AA.  
 AC 052737;  
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)  
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)  
 DT 01-NOV-1996 (TREMBLREL. 01, LAST ANNOTATION UPDATE)  
 DE NITRILE HYDRATASE ALPHA SUBUNIT.  
 OS RHODOCOCCUS ERITHROPOLIS.  
 OC PROKARYOTA; FIRMICUTES; ACTINOMYCETALES; NOCARDIOPORM.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX STRAIN-JCM6823;  
 RX MEDLINE: 93379359.  
 RA ROBERT D., NISHITAMA M., HORINOCHI S., BEPPU T.;  
 RL BIOSCI. BIOTECHNOL. BIOCHEM. 57:1323-1328(1993).  
 DR EMBL: D14454: G559379; -  
 SQ SEQUENCE 207 AA; 23116 MW; C62357D4 CRC32;

Query Match 3.2%; Score 7; DB 2; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 9.02e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 14 PAQAPVS 20  
 |||||  
 QY 17 PAQAPVS 23

RESULT 13  
 ID 039628 PRELIMINARY; PRT; 207 AA.  
 AC 039628;  
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)  
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)  
 DT 01-JAN-1998 (TREMBLREL. 05, LAST ANNOTATION UPDATE)  
 DE ORF36L.  
 OS CYDIA POMONELLA GRANULOVIRUS.  
 OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; BACULOVIRIDAE; GRANULOVIRUS.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA JERLE J.A., VAN DER LINDEN I.F.A., VLAK J.M.;  
 RL VIRUS RES. 0:0-0(1997).  
 DR EMBL: AF002732: G23232189; -  
 SQ SEQUENCE 207 AA; 23915 MW; D2F0E988 CRC32;

Query Match 3.2%; Score 7; DB 14; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 9.02e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 134 EVVPEPL 140

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QY 50 EVVVPPLT 56

RESULT 14  
ID 071198 PRELIMINARY; PRT; 221 AA.  
AC 071198;  
DT 01-AUG-1998 (TREMBLREL. 07, CREATED)  
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)  
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)  
DE HEXON-ASSOCIATED STRUCTURAL PROTEIN PVIII PRECURSOR.  
OS BOVINE ADENOVIRUS TYPE 1.  
OC VIROSES; DSDNA VIROSES, NO RNA STAGE; ADENOVIRIDAE; MASTADENOVIRUS.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-10;  
RA EVANS P.S., BENKO M., HARRACH B., LETCHWORTH G.J.;  
RL VIROLOGY 244:173-185(1998).  
DR EMBL; AF038868; G3135468; -.  
SQ SEQUENCE 221 AA; 24149 MW; 22C990DC CRC32;

Query Match 3.2%; Score 7; DB 14; Length 221;  
Best Local Similarity 100.0%; Pred. No. 9.02e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 124 GRGLELN 130  
QY 204 GRGLELN 210

RESULT 15  
ID 016889 PRELIMINARY; PRT; 232 AA.  
AC 016889;  
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)  
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)  
DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)  
DE VASCULAR ENDOTHELIAL GROWTH FACTOR.  
OS HOMO SAPIENS (HUMAN).  
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
OC EUTHERIA; PRIMATES.  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE; 92168017.  
RA HOUCK K.A., FERRARA N., WINER J., CACHIANES G., LI B., LEUNG D.W.;  
RL MOL. ENDOCRINOL. 5:1806-1814(1991).  
DR EMBL; S85192; G246156; -.  
DR EMBL; S85224; E91787; -.  
DR EMBL; S85199; E91787; JOINED.  
DR EMBL; S85201; E91787; JOINED.  
DR EMBL; S85219; E91787; JOINED.  
DR EMBL; S85222; E91787; JOINED.  
DR PROSITE; PS00249; PDGF; 1.  
DR PRAM; PF00341; PDGF.  
SQ SEQUENCE 232 AA; 27042 MW; 344182D1 CRC32;

Query Match 3.2%; Score 7; DB 4; Length 232;  
Best Local Similarity 100.0%; Pred. No. 9.02e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 91 GLECVPT 97  
QY 85 GLECVPT 91

Search completed: Mon Nov 30 13:11:02 1998  
Job time : 58 secs.

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97 6 2.7 1115 1 NCAL\_MOUSE NEURAL CELL ADHESION M 2.50e+01  
 98 6 2.7 1150 1 ZACA\_HUMAN PROTEIN PHOSPHATASE PP 2.50e+01  
 99 6 2.7 1188 1 DPOL\_A4E40 DNA POLYMERASE (EC 2.7 2.50e+01  
 100 6 2.7 3164 1 TEGU\_HSV1 LARGE TEGUMENT PROTEIN 2.50e+01

## ALIGNMENTS

RESULT 1  
 ID VEGF\_HUMAN STANDARD; PRT: 188 AA.  
 AC P49765;  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VEGF RELATED  
 DE FACTOR).  
 GN VEGF OR VRF.  
 OS HOMO SAPIENS (HUMAN).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 96197355.  
 RA OLOFSSON B., PAJUSOLA K., KAIPIAINEN A., VON EULER G., JOUKOV V.,  
 RA SAKSELA O., ORPANA A., PETERSSON R.F., ALITALO K., ERIKSSON U.,  
 RA PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RA GRIMMOND S., LAGERCRANTZ J., DRINKWATER C., SILINS G., THOMSON S.,  
 RA POLLOCK P., GOTLEY D., CARSON E., RAKAR S., NORDENSKJOLD M.,  
 RA WARD L., HAYWARD N., WEBER G.,  
 RL GENOME RES. 6:122-129(1996).  
 CC -1- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER  
 CC WITH VEGF.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR  
 CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.  
 CC -1- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.  
 CC HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL; U48801; G1234823; -  
 DR EMBL; U43369; G1216398; -  
 DR MIM; 601398; -  
 DR PROSITE; PS00249; PDGF; 1.  
 DR MITOGEN; GROWTH FACTOR; SIGNAL; HEPARIN-BINDING.  
 FT SIGNAL 1 21 POTENTIAL.  
 FT CHAIN 22 188 VASCULAR ENDOTHELIAL GROWTH FACTOR B.  
 SQ SEQUENCE 188 AA; 21261 MW; 35EA8904 CRC32;  
 Query Match 53.8%; Score 119; DB 1; Length 188;  
 Best Local Similarity 100.0%; Pred. No. 0.00e+00;  
 Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 18 PAQAPVSGPDAPGHOKRVVSMIDVTRATCCPREVYVLYELMGTVAKOLVPSCTVQR 77  
 Qy 17 PAQAPVSGPDAPGHOKRVVSMIDVTRATCCPREVYVLYELMGTVAKOLVPSCTVQR 76  
 Db 78 CGGCCPDGDLCEVPTGQHVQRMQIMIRYPSOIGEMSLSEHSOCECPKKKDSAVPD 136  
 Qy 77 CGGCCPDGDLCEVPTGQHVQRMQIMIRYPSOIGEMSLSEHSOCECPKKKDSAVPD 135  
 RESULT 2  
 ID VEGF\_MOUSE STANDARD; PRT: 188 AA.  
 AC P49766;  
 DT 01-OCT-1996 (REL. 34, CREATED)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR  
 DE ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRF).  
 GN VEGF OR VRF.  
 OS MUS MUSCULUS (MOUSE).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;

OC EUKARYOTA; RODENTIA.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 96197355.  
 RA OLOFSSON B., PAJUSOLA K., KAIPIAINEN A., VON EULER G., JOUKOV V.,  
 RA SAKSELA O., ORPANA A., PETERSSON R.F., ALITALO K., ERIKSSON U.,  
 RA PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 96183052.  
 RA THOMSON S., LAGERCRANTZ J., GRIMMOND S., SILINS G.,  
 RA NORDENSKJOLD M., WEBER G., HAYWARD N.K.,  
 RA BIOCHEM. BIOPHYS. RES. COMMUN. 220:922-928(1996).  
 CC -1- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER  
 CC WITH VEGF.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR  
 CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.  
 CC -1- TISSUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, KIDNEY  
 CC AND SKELETAL MUSCLE.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL; U48800; G1234825; -  
 DR EMBL; U43837; G1314336; -  
 DR MGD; MGI:106199; VRF.  
 DR PROSITE; PS00249; PDGF; 1.  
 DR MITOGEN; GROWTH FACTOR; SIGNAL; HEPARIN-BINDING.  
 FT SIGNAL 1 21 POTENTIAL.  
 FT CHAIN 22 188 VASCULAR ENDOTHELIAL GROWTH FACTOR B.  
 SQ SEQUENCE 188 AA; 21442 MW; 7999A3C8 CRC32;  
 Query Match 17.6%; Score 39; DB 1; Length 188;  
 Best Local Similarity 100.0%; Pred. No. 4.34e-99;  
 Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 66 KOLVPSCTVQRGGCCPDGDLCEVPTGQHVQRMQIMIR 104  
 Qy 65 KOLVPSCTVQRGGCCPDGDLCEVPTGQHVQRMQIMIR 103  
 RESULT 3  
 ID VEGF\_SHEEP STANDARD; PRT: 146 AA.  
 AC P50412;  
 DT 01-OCT-1996 (REL. 34, CREATED)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR  
 DE PERMEABILITY FACTOR) (VPF).  
 GN VEGF.  
 OS OVIS ARIES (SHEEP).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 97117958.  
 RA REDMER D.A., DAI Y., LI J., CHARNOCK-JONES D.S., SMITH S.K.,  
 RA REYNOLDS L.P., MOOR R.M.,  
 RL J. REPROD. FERTIL. 108:157-165(1996).  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS AND ENDOTHELIAL  
 CC CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR  
 CC PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR  
 CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY  
 CC SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL; X89506; G89351; -  
 DR PROSITE; PS00249; PDGF; 1.  
 DR MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; SIGNAL.  
 FT SIGNAL 1 26 BY SIMILARITY.  
 FT CHAIN 27 146 VASCULAR ENDOTHELIAL GROWTH FACTOR.



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FT DISULFID 51 93 BY SIMILARITY.  
 FT DISULFID 82 127 BY SIMILARITY.  
 FT DISULFID 86 129 BY SIMILARITY.  
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).  
 FT CARBOHYD 100 100 POTENTIAL.  
 SQ SEQUENCE 146 AA; 17247 MW; 4EBB20AE CRC32;

Query Match 3.2%: Score 7; DB 1: Length 146;  
 Best Local Similarity 100.0%; Pred. No. 3.30e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 127 CECRPRK 133  
 121 CECRPRK 127

RESULT 4  
 ID VEGF\_GAVPO STANDARD; PRT; 164 AA.  
 AC P26617;  
 DT 01-AUG-1992 (REL. 23, CREATED)  
 DT 01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPE).  
 GN VEGF.  
 OS CAVIA PORCELLUS (GUINEA PIG).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUTHERIA; RODENTIA;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA BERSER B.;  
 RL SUBMITTED (XXX-1992) TO EMBL/GENBANK/DBJ DATA BANKS.  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: M84230; G191307; -;  
 DR PROSITE: PS00249; PDGF: 1.  
 KW MITOGEN; GROWTH FACTOR; GLYCOPROTEIN.  
 FT DISULFID 25 67 BY SIMILARITY.  
 FT DISULFID 56 101 BY SIMILARITY.  
 FT DISULFID 60 103 BY SIMILARITY.  
 FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).  
 FT CARBOHYD 74 74 POTENTIAL.  
 SQ SEQUENCE 164 AA; 19330 MW; AEBBDf3 CRC32;

Query Match 3.2%: Score 7; DB 1: Length 164;  
 Best Local Similarity 100.0%; Pred. No. 3.30e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 101 CECRPRK 107  
 121 CECRPRK 127

RESULT 5  
 ID VEGF\_PIG STANDARD; PRT; 190 AA.  
 AC P49151;  
 DT 01-FEB-1996 (REL. 33, CREATED)  
 DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPE).  
 GN VEGF.  
 OS SUS SCROFA (PIG).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUTHERIA; ARTIODACTYLA.

RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-HEART;  
 RX MEDLINE: 95143284.  
 RA SHARMA H.S., TANG Z.H., GHO B.C.H., VERDOUW P.D.;  
 RL BIOCHIM. BIOPHYS. ACTA 1260:235-238(1995).  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY (BY SIMILARITY).  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: X81380; G587560; -;  
 DR PROSITE: PS00249; PDGF: 1.  
 KW MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; SIGNAL.  
 FT SIGNAL 1 26 POTENTIAL.  
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR.  
 FT DISULFID 51 93 BY SIMILARITY.  
 FT DISULFID 82 127 BY SIMILARITY.  
 FT DISULFID 86 129 BY SIMILARITY.  
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).  
 FT CARBOHYD 100 100 POTENTIAL.  
 SQ SEQUENCE 190 AA; 22368 MW; BA8CC907 CRC32;

Query Match 3.2%: Score 7; DB 1: Length 190;  
 Best Local Similarity 100.0%; Pred. No. 3.30e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 90 GLECCPT 96  
 85 GLECCPT 91

RESULT 6  
 ID VEGF\_BOVIN STANDARD; PRT; 190 AA.  
 AC P15691;  
 DT 01-APR-1990 (REL. 14, CREATED)  
 DT 01-APR-1990 (REL. 14, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPE).  
 GN VEGF.  
 OS BOS TAURUS (BOVINE).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUTHERIA; ARTIODACTYLA.  
 RN [1]  
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.  
 RX MEDLINE: 90069608.  
 RA LEUNG D.W., CACHINES G., KUANG W.-J., GOEDDEL D.V., FERRARA N.;  
 RL SCIENCE 246:1306-1309(1989).  
 RN [2]  
 RP SEQUENCE OF 27-190 FROM N.A.  
 RX MEDLINE: 90121225.  
 RA FISCHER E., GOSPODAROWICZ D., MITCHELL R., SILVA M., SCHILLING J., LAU K., CRISP T., FIDDES J.C., ABRAHAM J.A.;  
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 165:1198-1206(1989).  
 RN [3]  
 RP SEQUENCE OF 27-31.  
 RX MEDLINE: 89286596.  
 RA FERRARA N., HENZEL W.J.;  
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 161:851-858(1989).  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: M32976; G163007; -;

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DR EMBL: M31836; G163809; -.
DR EMBL: M33750; G163811; -.
DR PIR: A33255; A33255.
DR PIR: A33787; A33787.
DR PIR: B40080; B40080.
DR PROSITE: PS00249; PDGF; 1.
KW MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; ALTERNATIVE SPLICING; SIGNAL.
FT SIGNAL 1 26
FT CHAIN 27 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT VASPLIC 139 183
FT VASPLIC 184 184
SO SEQUENCE 190 AA; 22310 MW; E22F67ED CRC32;

Query Match 3.2%; Score 7; DB 1; Length 190;
Best Local Similarity 100.0%; Pred. No. 3.30e-01;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 127 CECRPK 133
Qy 121 CECRPK 127

RESULT 7
ID VEGF RAT STANDARD: PRT: 190 AA.
AC P16612.
DT 01-AUG-1990 (REL. 15, CREATED)
DT 01-AUG-1990 (REL. 15, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
DE PERMEABILITY FACTOR) (VPF).
GN VEGF.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
OC EUTHERIA; RODENTIA.
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-190.
RA MEDLINE: 90207249.
RA CONN G., BAYNE M.L., SODERMAN D.D., KWOK P.W., SULLIVAN K.A.,
RA PALISI T.M., HOPE D.A., THOMAS K.A.;
RA PROC. NATL. ACAD. SCI. U.S.A. 87:2628-2633(1990).
CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
CC CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
CC PERMEABILITY.
CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR
CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
CC SIMILARITY).
CC -1- TISSUE SPECIFICITY: EXPRESSED IN THE PITUITARY, IN BRAIN, IN
CC PARTICULARLY IN SUPRACORTIC AND PARAVENTRICULAR NUCLEI AND THE
CC CHOROID PLEXUS. ALSO FOUND ABUNDANTLY IN THE CORPUS LUTEUM OF
CC THE OVARY AND IN KIDNEY GLOMERULI.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
DR EMBL: M32167; G204288; -.
DR PIR: A35987; A35987.
DR PROSITE: PS00249; PDGF; 1.
KW MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; SIGNAL.
FT SIGNAL 1 26
FT CHAIN 27 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
SO SEQUENCE 190 AA; 22396 MW; B64CA99F CRC32;

Query Match 3.2%; Score 7; DB 1; Length 190;

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Best Local Similarity 100.0%; Pred. No. 3.30e-01;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 127 CECRPK 133
Qy 121 CECRPK 127

RESULT 8
ID CR2_HORVU STANDARD: PRT: 202 AA.
AC P23252;
DT 01-NOV-1991 (REL. 20, CREATED)
DT 01-NOV-1991 (REL. 20, LAST SEQUENCE UPDATE)
DT 01-NOV-1991 (REL. 20, LAST ANNOTATION UPDATE)
DE COLD-REGULATED PROTEIN 2 (FRAGMENT).
OS HORDEUM VULGARE (BARLEY).
OC EUKARYOTA; PLANTA; EMBRYOPHYTA; ANGIOSPERMAE; MONOCOTYLEDONEAE;
OC CYPERALES; GRAMINEAE.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-CV. GEORGIE;
RA CATTIVELLI L., BARTELS D.;
RL PLANT PHYSIOL. 93:1504-1510(1990).
CC -1- CONTAINS SEVERAL ARGININE RESIDUES IN CLOSE PROXIMITY WHICH
CC MAY BE INVOLVED IN PROTEIN RNA INTERACTIONS.
DR EMBL: M60733; G167028; ALT_INIT.
DR PIR: B45512; B45512.
FT NON_TER 1 1
FT DOMAIN 116 125
SO SEQUENCE 202 AA; 21753 MW; BC9A9416 CRC32;

Query Match 3.2%; Score 7; DB 1; Length 202;
Best Local Similarity 100.0%; Pred. No. 3.30e-01;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 116 RCRCRR 122
Qy 191 RCRCRR 197

RESULT 9
ID NHAA_PHOER STANDARD: PRT: 206 AA.
AC P13446;
DT 01-JAN-1990 (REL. 13, CREATED)
DT 01-AUG-1991 (REL. 19, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE NITRILE HYDROLASE SUBUNIT ALPHA (EC 4.2.1.84) (NITRILASE) (NHASE).
GN NHAA.
OS RHODOCOCCUS ERYTHROPOLIS.
OC PROKARYOTA; FIRMICUTES; ACTINOMYCETALES; NOCARDIOFORM.
RN [1]
RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
RC STRAIN-N-774;
RA MEDLINE: 89276338.
RA Ikehara O., Nishiyama M., Horinouchi S., Beppu T.;
RL EUR. J. BIOCHEM. 181:563-570(1989).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-N-774;
RX MEDLINE: 91159474.
RA HASHIMOTO Y., NISHIYAMA M., Ikehata O., Horinouchi S., Beppu T.;
RL BIOCHIM. BIOPHYS. ACTA 1088:225-233(1991).
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN-ACV2;
RA BIGEY F., CHEBBROU H., ARNAUD A., GALZY P.;
RL SUBMITTED (MAR-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE OF 1-187 FROM N.A.
RC STRAIN-BREVIABACTERIUM SP. / STRAIN R312;
RX MEDLINE: 91072222.
RA MAYAUD J.-F., CERBELAUD E., SOUBRIER F., FAUCHER D., PETRE D.;
RL J. BACTERIOL. 172:6764-6773(1990).

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RN [5]  
 RP SEQUENCE OF 1-19.  
 RC STRAIN-N-774;  
 RX MEDLINE: 89153549.  
 RA ENDO T., MATANABE I.;  
 RL FEBS LETT. 243:61-64(1989).  
 RN [6]  
 RP X-RAY CRYSTALLOGRAPHY (2.65 ANGSTROMS).  
 RC STRAIN-R112;  
 RX MEDLINE: 97341231.  
 RA HUANG W., JIA J., CUMMINGS J., NELSON M., SCHNEIDER G., LINDOYST Y.;  
 RL STRUCTURE 5:691-699(1997).  
 CC -1- FUNCTION: NHASE CATALYZES THE HYDRATION OF VARIOUS NITRILE  
 COMPOUNDS TO THE CORRESPONDING AMIDES. INDUSTRIAL PRODUCTION OF  
 ACRYLAMIDE IS NOW BEING DEVELOPED USING SOME OF THESE ENZYMES.  
 CC -1- CATALYTIC ACTIVITY: AN ALIPHATIC AMIDE -> A NITRILE + H(2)O.  
 CC -1- COFACTOR: BINDS A NON-HEME IRON.  
 CC -1- SUBUNIT: HETERODIMER OF AN ALPHA AND A BETA CHAIN.  
 CC -1- SIMILARITY: TO OTHER NITRILE HYDRATASES SUBUNIT ALPHA.  
 DR EMBL: X14668; G46430; -;  
 DR EMBL: X54074; G46412; -;  
 DR EMBL: 248769; G769825; -;  
 DR EMBL: M60264; G144092; -;  
 DR PIR: S04472; S04472.  
 DR PIR: B37806; B37806.  
 DR PDB: 1AHJ; 08-APR-98.  
 DR LYSASE: IRON; 3D-STRUCTURE.  
 FT INIT MET 0 0  
 FT METAL 109 109 IRON.  
 FT METAL 112 112 IRON.  
 FT METAL 113 113 IRON.  
 FT METAL 114 114 IRON.  
 FT CONFLICT 17 17 P -> A (IN REF. 1).  
 FT CONFLICT 19 19 S -> T (IN REF. 4).  
 SQ SEQUENCE 206 AA; 22865 MW; 41606C46 CRC32;  
 Query Match 3.2%; Score 7; DB 1; Length 206;  
 Best Local Similarity 100.0%; Pred. No. 3.30e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 13 PAQAPVS 19  
 QY 17 PAQAPVS 23  
 RESULT 10  
 ID VEGF\_MOUSE STANDARD; PRT; 214 AA.  
 AC 000731;  
 DT 01-APR-1993 (REL. 25, CREATED)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR  
 DE PERMEABILITY FACTOR) (VPF).  
 GN VEGF.  
 OS MUS MUSCULUS (MOUSE).  
 OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUTHERIA; RODENTIA.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 92274860.  
 RA BREIER G., ALBRECHT U., STERRER S., RISAU W.;  
 RL DEVELOPMENT 114:521-532(1992).  
 RN [2]  
 RP SEQUENCE FROM N.A. (VEGF-1).  
 RX MEDLINE: 92355563.  
 RA CUFFEY K.P., WILKINSON W.O., SPIEGELMAN B.M.;  
 RL J. BIOL. CHEM. 267:16317-16322(1992).  
 RN [3]  
 RP SEQUENCE OF 1-3 FROM N.A.  
 RX MEDLINE: 96216498.  
 RA SHIMA D.T., KUROKI M., DEUTSCH U., NG Y., ADAMIS A.P., D'AMORE P.A.;  
 RL J. BIOL. CHEM. 271:3877-3883(1996).  
 RN -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL

CC CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR  
 CC PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- SUBCELLULAR LOCATION: VEGF-1 AND VEGF-2 ARE SECRETED WHILST  
 CC VEGF-3 REMAINS CELL-SURFACE ASSOCIATED UNLESS RELEASED BY  
 CC HEPARIN.  
 CC -1- TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN  
 CC THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA AND  
 CC KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL  
 CC GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF  
 CC VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS.  
 CC -1- ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE  
 CC PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE  
 CC LONEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED  
 CC TO CELL-ASSOCIATION/HEPARIN-BINDING.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: S37052; G249857; -;  
 DR EMBL: S38083; G249859; -;  
 DR EMBL: S38100; G249861; -;  
 DR EMBL: M95200; G202351; -;  
 DR EMBL: U41383; E215501; -;  
 DR PIR: A43351; A43351.  
 DR MGD: MGT-103178; VEGF.  
 DR PROSITE: PS00249; PDGF; 1.  
 DR KW MITOGEN: GROWTH FACTOR; GLYCOPROTEIN; ALTERNATIVE SPLICING; SIGNAL.  
 FT SIGNAL 1 26  
 FT CHAIN 27 24  
 FT DISULFID 51 93 VASCULAR ENDOTHELIAL GROWTH FACTOR.  
 FT DISULFID 82 127 BY SIMILARITY.  
 FT DISULFID 86 129 BY SIMILARITY.  
 FT DISULFID 86 129 BY SIMILARITY.  
 FT DISULFID 86 129 INTERCHAIN (BY SIMILARITY).  
 FT CARBOHYD 100 100 INTERCHAIN (BY SIMILARITY).  
 FT VARSPLIC 140 140 PROBABLE.  
 FT VARSPLIC 141 164 K -> N (IN VEGF-1).  
 FT VARSPLIC 141 164 MISSING (IN VEGF-2).  
 FT VARSPLIC 141 208 MISSING (IN VEGF-2).  
 FT CONFLICT 117 118 GE -> ER (IN REF. 2).  
 SQ SEQUENCE 214 AA; 25283 MW; 403318AF CRC32;  
 Query Match 3.2%; Score 7; DB 1; Length 214;  
 Best Local Similarity 100.0%; Pred. No. 3.30e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 127 CECRPRK 133  
 QY 121 CECRPRK 127  
 RESULT 11  
 ID VEGF\_HUMAN STANDARD; PRT; 215 AA.  
 AC P15692;  
 DT 01-APR-1990 (REL. 14, CREATED)  
 DT 01-APR-1990 (REL. 14, LAST SEQUENCE UPDATE)  
 DT 01-APR-1990 (REL. 14, LAST ANNOTATION UPDATE)  
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR  
 DE PERMEABILITY FACTOR) (VPF).  
 GN VEGF OR VEGFA.  
 OS HOMO SAPIENS (HUMAN).  
 OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUTHERIA; PRIMATES.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 90069608.  
 RA LEUNG D.W., CACHIANES G., KUANG W.-J., GOEDEL D.V., FERRARA N.;  
 RL SCIENCE 246:1306-1309(1989).  
 RN [2]  
 RP SEQUENCE FROM N.A. AND PARTIAL SEQUENCE.  
 RX MEDLINE: 90069609.  
 RA RECK P.J., HAUSER S.D., KRIVI G., SANJO K., WARREN T., FEDER J.;  
 RA CONNOLLY D.T.;  
 RL SCIENCE 246:1309-1312(1989).  
 RN [3]  
 RP SEQUENCE FROM N.A.

RX MEDLINE: 91268072.  
 RA TISCHER E., MITCHELL R., HARTMAN T., SILVA M., GOSPODAROWICZ D.,  
 RA FIDES J.C., ABRAHAM J.A.;  
 RL J. BIOL. CHEM. 266:11947-11954(1991).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 92231879.  
 RA WEINDEL K., MARME D., WEICH H.A.;  
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 183:1167-1174(1992).  
 RN [5]  
 RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.  
 RX MEDLINE: 90062112.  
 RA CONNOLLY D.T., OLANDER J.V., HEUVELMAN D., NELSON R., MONSELL R.,  
 RA SIEBEL N., HAYMORE B.L., LEIMGRUBER R., FEDER J.;  
 RL J. BIOL. CHEM. 264:20017-20024(1989).  
 RN [6]  
 RP SEQUENCE OF 27-41.  
 RX MEDLINE: 93145946.  
 RA FIEBICH B.L., JAEGER B., SCHOELLMANN C., WEINDEL K., WILTING J.,  
 RA KOCHS G., MARME D., HUG H., WEICH H.A.;  
 RL EUR. J. BIOCHEM. 211:19-26(1993).  
 RN [7]  
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.  
 RX MEDLINE: 97352774.  
 RA MULLER Y.A., LI B., CHRISTINGER H.W., WELLS J.A., CUNNINGHAM B.C.,  
 RA DE VOS A.M.;  
 RL PROC. NATL. ACAD. SCI. U.S.A. 94:7192-7197(1997).  
 RN [8]  
 RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.  
 RX MEDLINE: 98035455.  
 RA MULLER Y.A., CHRISTINGER H.W., KEYS B.A., DE VOS A.M.;  
 RL STRUCTURE 5:1325-1338(1997).  
 RN [9]  
 RP STRUCTURE BY NMR OF 34-135.  
 RX MEDLINE: 97477915.  
 RA FARBRÖTHER W.J., CHAMPE M.A., CHRISTINGER H.W., KEYS B.A.,  
 RA STROVANSKI M.A.;  
 RL PROTEIN SCI. 6:2250-2260(1997).  
 RN [10]  
 RP STRUCTURE BY NMR OF 137-215.  
 RX MEDLINE: 98298440.  
 RA FARBRÖTHER W.J., CHAMPE M.A., CHRISTINGER H.W., KEYS B.A.,  
 RA STROVANSKI M.A.;  
 RL STRUCTURE 6:637-648(1998).  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL  
 CC CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR  
 CC PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY  
 CC SIMILARITY).  
 CC -1- ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED BY  
 CC ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-165,  
 CC VEGF-189 AND VEGF-215).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 CC EMBL: M32977; G181971; -;  
 DR EMBL: M27281; G340301; -;  
 DR EMBL: M63978; G340215; -;  
 DR EMBL: M63971; G340215; JOINED.  
 DR EMBL: M63972; G340215; JOINED.  
 DR EMBL: M63973; G340215; JOINED.  
 DR EMBL: M63974; G340215; JOINED.  
 DR EMBL: M63975; G340215; JOINED.  
 DR EMBL: M63976; G340215; JOINED.  
 DR EMBL: M63977; G340215; JOINED.  
 DR EMBL: X62568; G37659; -;  
 DR PIR: A34492; A34492;  
 DR PIR: A40079; A40079;  
 DR PIR: A40080; A40080;  
 DR PIR: A40454; A40454;  
 DR PIR: B40454; B40454;  
 DR PIR: C40454; C40454;  
 DR PIR: J01463; J01463.

DR PIR: J01464; J01464.  
 DR PIR: S17348; S17348.  
 DR PDB: 1VGH; 08-APR-98.  
 DR PDB: 2VGH; 08-APR-98.  
 DR PDB: 1VPE; 08-APR-98.  
 DR PDB: 2VPE; PRELIMINARY.  
 DR MIM: 192240; -;  
 DR PROSITE; PS00249; PDGF: 1.  
 KW MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; ALTERNATIVE SPLICING; SIGNAL;  
 KW 3D-STRUCTURE.  
 FT SIGNAL 1 26  
 FT CHAIN 27 215  
 FT DISULFID 52 94  
 FT DISULFID 83 128  
 FT DISULFID 87 130  
 FT DISULFID 77 77  
 FT DISULFID 86 86  
 FT CARBOHYD 101 101  
 FT VARSPLIC 141 141  
 FT VARSPLIC 142 165  
 FT VARSPLIC 142 209  
 SQ SEQUENCE 215 AA; 25173 MW; 18547894 CRC32;  
 K -> N (IN VEGF-121 AND VEGF-165).  
 MISSING (IN VEGF-165).  
 MISSING (IN VEGF-121).  
 Query Match 3.2%; Score 7; DB 1; Length 215;  
 Best Local Similarity 100.0%; Pred. No. 3.30e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 91 GLECVPT 97  
 Qy 85 GLECVPT 91  
 RESULT 12  
 ID EFA4 MOUSE STANDARD; PRT; 224 AA.  
 AC 008542;  
 DT 01-NOV-1997 (REL. 35, CREATED)  
 DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)  
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)  
 DE EPHRIN-A4 PRECURSOR (EPH-RELATED RECEPTOR TYROSINE KINASE LIGAND 4)  
 DE (LEPR-4).  
 GN EFN4 OR EPL4 OR LEPR4 OR EPL4.  
 OS MUS MUSCULUS (MOUSE).  
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 CC EUTHERIA; RODENTIA.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 97060319.  
 RA FLENNIKEN A.M., GALE N.W., YANCOPOULOS G.D., WILKINSON D.G.;  
 RL DEV. BIOL. 179:382-401(1996).  
 CC -1- SUBCELLULAR LOCATION: ATTACHED TO THE MEMBRANE BY A GPI-ANCHOR (BY  
 CC SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE EPHRIN FAMILY.  
 DR EMBL: U90663; G1906017; -;  
 DR MIM: MGI:106643; EFN4.  
 DR PROSITE; PS01299; EPHRIN: 1.  
 KW GLYCOPROTEIN; GPI-ANCHOR; SIGNAL.  
 FT SIGNAL 1 26  
 FT CHAIN 27 215  
 FT CARBOHYD 51 51  
 FT CARBOHYD 116 116  
 FT SITE 59 61  
 SQ SEQUENCE 224 AA; 24698 MW; D6908052 CRC32;  
 CELL ATTACHMENT SITE (POTENTIAL).  
 Query Match 3.2%; Score 7; DB 1; Length 224;  
 Best Local Similarity 100.0%; Pred. No. 3.30e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 13 RPPAPG 19  
 Qy 9 RPPAPG 15  
 RESULT 13

BEST AVAILABLE

ID Y146\_HAEMIN STANDARD: PRT: 329 AA.  
AC P44542;  
DT 01-NOV-1995 (REL. 32, CREATED)  
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)  
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)  
DE HYPOTHETICAL PROTEIN H10146 PRECURSOR.  
GN H10146.  
OS HAEMOPHILUS INFLUENZAE.  
OC PROKARYOTA: GRACILICUTES: SCOTOBACTERIA: FACULTATIVELY ANAEROBIC RODS:  
OC PASTEURILLACEAE.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-RD / KW20;  
RX MEDLINE: 95350630.  
RA FLEISCHMANN R.D., ADAMS M.D., WHITE O., CLAYTON R.A., KIRKNESS E.F.,  
RA KEILAAGE A.R., BULT C.J., TOMB J.-F., DOUGHERTY B.A., MERRICK J.M.,  
RA MCKENNEY K., SUTTON G., FITZHUGH W., FIELDS C.A., GOGAYNE J.D.,  
RA SCOTT J.D., SHIRLEY R., LIU L.-I., GLODER A., KELLEY J.M.,  
RA WEIDMAN J.F., PHILLIPS C.A., SPRIGGS T., HEDBLOM E., COTTON M.D.,  
RA UTTERBACK T.R., HANNA M.C., NGUYEN D.T., SAUDER D.M., BRANDON R.C.,  
RA FINE L.D., FRITZMAN J.L., FUHRMANN J.L., GEOGHAGEN N.S.M.,  
RA GNEHM C.L., MCDONALD L.A., SMALL K.V., FRASER C.M., SMITH H.O.,  
RA VENTER J.C.;  
RL SCIENCE 269:496-512(1995).  
CC -1- SUBCELLULAR LOCATION: PERIPLASMIC (PROBABLE).  
CC -1- SIMILARITY: BELONGS TO THE BACTERIAL EXTRACELLULAR SOLUTE-BINDING  
CC PROTEIN FAMILY 7.  
DR EMBL: U32700: G1573102: -.  
DR TIGR: H10146: -.  
KW HYPOTHETICAL PROTEIN; TRANSPORT; PERIPLASMIC; SIGNAL.  
FT SIGNAL 23  
FT CHAIN 24 329  
SQ SEQUENCE 329 AA: 36513 MM: 84D68B15 CRC32;

Query Match 3.2% Score 7: DB 1: Length 329;  
Best Local Similarity 100.0%: Pred. No. 3.30e-01;  
Matches 7: Conservative 0: Mismatches 0: Indels 0: Gaps 0:

DB 64 YPSSOLG 70  
OY 105 YPSSOLG 111

RESULT 14  
ID SOX3\_HUMAN STANDARD: PRT: 443 AA.  
AC P41225: P35714;  
DT 01-JUN-1994 (REL. 29, CREATED)  
DT 01-FEB-1995 (REL. 31, LAST SEQUENCE UPDATE)  
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)  
DE TRANSCRIPTION FACTOR SOX-3.  
GN SOX3.  
OS HOMO SAPIENS (HUMAN).  
OC EUKARYOTA: METAZOA: CHORDATA: VERTEBRATA: TETRAPODA: MAMMALIA:  
OC EUHERIA: PRIMATES.  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE: 94154672.  
RA STEVANOVIC M., LOVELL-BADGE R., COLLIGNON J., GOODEFELLOW P.N.,  
RL HUM. MOL. GENET. 2:2013-2018(1993).  
RN [2]  
RP SEQUENCE OF 150-203 FROM N.A.  
RX MEDLINE: 92310993.  
RA DENNY P., SMITH S., BRAND N., DABHADE N., BARTON P., ASHWORTH A.,  
RL NUCLEIC ACIDS RES. 20:2887-2887(1992).  
CC -1- SUBCELLULAR LOCATION: NUCLEAR.  
CC -1- SIMILARITY: CONTAINS 1 HMG BOX.  
CC -1- CAUTION: WAS CALLED SOX-9 BY REF. 2.  
DR EMBL: X71135: G530020: -.  
DR EMBL: X65665: G938234: -.  
DR PIR: S21483: S21483.  
DR PIR: S22942: S22942.  
DR MIM: 313430: -.  
KW DNA-BINDING; NUCLEAR PROTEIN; TRANSCRIPTION REGULATION.

FT DOMAIN 129 133 POLY-GLY.  
FT DNA\_BIND 139 207 HMG BOX.  
FT DOMAIN 234 248 POLY-ALA.  
FT DOMAIN 290 294 POLY-PRO.  
FT DOMAIN 321 327 POLY-ALA.  
FT DOMAIN 337 344 POLY-ALA.  
FT DOMAIN 350 361 POLY-ALA.  
FT CONFLICT 159 159 L -> Q (IN REF. 2).  
FT CONFLICT 176 176 D -> E (IN REF. 2).  
FT CONFLICT 202 202 E -> D (IN REF. 2).  
SQ SEQUENCE 443 AA: 44684 MM: FBFF7135 CRC32;

Query Match 3.2% Score 7: DB 1: Length 443;  
Best Local Similarity 100.0%: Pred. No. 3.30e-01;  
Matches 7: Conservative 0: Mismatches 0: Indels 0: Gaps 0:

DB 57 APGASP 63  
OY 155 APGASP 161

RESULT 15  
ID COA2\_BPPE3 STANDARD: PRT: 483 AA.  
AC P03624;  
DT 21-JUL-1986 (REL. 01, CREATED)  
DT 21-JUL-1986 (REL. 01, LAST SEQUENCE UPDATE)  
DT 01-MAR-1989 (REL. 10, LAST ANNOTATION UPDATE)  
DE MINOR COAT PROTEIN (ORF 483).  
OS BACTERIOPHAGE PP3.  
OC VIRIDAE; SS-DNA NONENVELOPED VIRUSES; INOVIRIDAE.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-NEW-YORK, AND NIJMEGEN;  
RX MEDLINE: 85293231.  
RA LUTTEN R.G.M., PUTERMAN D.G., SCHOENMAKERS J.G.G., KONINGS R.N.H.,  
RA DAY L.A.;  
RL J. VIROL. 56:268-276(1985).  
CC -1- THE STRAIN NIJMEGEN SEQUENCE IS SHOWN.  
DR EMBL: M11912: G215374: -.  
DR EMBL: M19377: G215383: -.  
DR PIR: A04232: VCBP13.  
KW COAT PROTEIN.  
FT VARIANT 419 419 L -> F (IN STRAIN NEW-YORK).  
SQ SEQUENCE 483 AA: 52197 MM: 52AD1784 CRC32;

Query Match 3.2% Score 7: DB 1: Length 483;  
Best Local Similarity 100.0%: Pred. No. 3.30e-01;  
Matches 7: Conservative 0: Mismatches 0: Indels 0: Gaps 0:

DB 177 PRSYPGW 183  
OY 146 PRSYPGW 152

Search completed: Mon Nov 30 13:09:47 1998  
Job time : 22 secs.

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# MIPS

(TM)

Release 3.1a John P. Collins, Biocomputing Research Unit.  
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MIPSApp protein - protein database search, using Smith-Waterman algorithm  
Run on: Thu Nov 26 00:08:55 1998 MIPSApp time 11.77 seconds  
Tabular output not generated.

Title: UN-09-033-662-2  
Description: (1-221) from OS09033662.pep  
Perfect Score: 221  
Sequence: 1 MRRKSGRPAAPGVPAQA.....COGRGLMPPRCNGLRLR 221  
Scoring table: TABLE uniprottable  
Gap 60

Searched: 120441 seqs, 36531193 residues  
Post-processing: Minimum Match 0%  
Listing first 1000 summaries

Database: p1556

Statistics: Mean 3.336; Variance 0.440; scale 7.555

Score No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

Results

No.	Score	Match	Length	DB	ID	Description	Pred. No.
1	19	17.6	188	2	JC4680	vascular endothelial	5,83e-88

No.	Score	Match	Length	DB	ID	Description	Pred. No.
1	19	17.6	188	2	JC4680	vascular endothelial	5,83e-88

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1	19	17.6	188	2	JC4680	vascular endothelial	5,83e-88

No.	Score	Match	Length	DB	ID	Description	Pred. No.
1	19	17.6	188	2	JC4680</		





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359	5	2.3	150	5	1.45e+03	410	5	2.3	166	5	1.45e+03	458	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
360	5	2.3	150	5	1.45e+03	411	5	2.3	167	5	1.45e+03	459	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
361	5	2.3	150	5	1.45e+03	412	5	2.3	168	5	1.45e+03	460	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
362	5	2.3	150	5	1.45e+03	413	5	2.3	169	5	1.45e+03	461	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
363	5	2.3	150	5	1.45e+03	414	5	2.3	170	5	1.45e+03	462	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
364	5	2.3	150	5	1.45e+03	415	5	2.3	171	5	1.45e+03	463	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
365	5	2.3	150	5	1.45e+03	416	5	2.3	172	5	1.45e+03	464	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
366	5	2.3	150	5	1.45e+03	417	5	2.3	173	5	1.45e+03	465	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
367	5	2.3	150	5	1.45e+03	418	5	2.3	174	5	1.45e+03	466	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
368	5	2.3	150	5	1.45e+03	419	5	2.3	175	5	1.45e+03	467	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
369	5	2.3	150	5	1.45e+03	420	5	2.3	176	5	1.45e+03	468	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
370	5	2.3	150	5	1.45e+03	421	5	2.3	177	5	1.45e+03	469	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
371	5	2.3	150	5	1.45e+03	422	5	2.3	178	5	1.45e+03	470	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
372	5	2.3	150	5	1.45e+03	423	5	2.3	179	5	1.45e+03	471	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
373	5	2.3	150	5	1.45e+03	424	5	2.3	180	5	1.45e+03	472	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
374	5	2.3	150	5	1.45e+03	425	5	2.3	181	5	1.45e+03	473	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
375	5	2.3	150	5	1.45e+03	426	5	2.3	182	5	1.45e+03	474	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
376	5	2.3	150	5	1.45e+03	427	5	2.3	183	5	1.45e+03	475	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
377	5	2.3	150	5	1.45e+03	428	5	2.3	184	5	1.45e+03	476	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
378	5	2.3	150	5	1.45e+03	429	5	2.3	185	5	1.45e+03	477	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
379	5	2.3	150	5	1.45e+03	430	5	2.3	186	5	1.45e+03	478	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
380	5	2.3	150	5	1.45e+03	431	5	2.3	187	5	1.45e+03	479	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03
381	5	2.3	150	5	1.45e+03	432	5	2.3	188	5	1.45e+03	480	5	2.3	200	5	3PCOE	proteasease	3.44d	1.45e+03





971 5 2.3 1414 2 52380 collagen alpha 2(I) c 1.45e+03  
 972 5 2.3 1460 2 54847 myosin heavy chain 3 1.45e+03  
 973 5 2.3 1476 2 A4573 Reich protein long 7 1.45e+03  
 974 5 2.3 1490 2 S3373 DNA-binding protein 1 1.45e+03  
 975 5 2.3 1508 2 A5148 collagen alpha 1(IY) 1.45e+03  
 976 5 2.3 1729 2 A5148 collagen alpha 1(IY) 1.45e+03  
 977 5 2.3 1742 2 67410 hypoxanthine phosphoribosyl transferase 1.45e+03  
 978 5 2.3 1806 1 CCR02 collagen alpha 1(XI) 1.45e+03  
 979 5 2.3 1810 1 CCR02 collagen alpha 1(XI) 1.45e+03  
 980 5 2.3 1810 1 CCR02 collagen alpha 1(XI) 1.45e+03  
 981 5 2.3 1872 2 S3511 beta2 protein - human 1.45e+03  
 982 5 2.3 1872 2 S3511 beta2 protein - human 1.45e+03  
 983 5 2.3 1872 2 S3511 beta2 protein - human 1.45e+03  
 984 5 2.3 1872 2 S3511 beta2 protein - human 1.45e+03  
 985 5 2.3 1940 1 S04090 myosin heavy chain 3 1.45e+03  
 986 5 2.3 2068 2 A4731 sodium channel protein 1.45e+03  
 987 5 2.3 2068 2 A4731 sodium channel protein 1.45e+03  
 988 5 2.3 2115 2 S38480 acetyl-CoA carboxylase 1.45e+03  
 989 5 2.3 2115 2 S38480 acetyl-CoA carboxylase 1.45e+03  
 990 5 2.3 2143 2 J00429 voltage-dependent cal 1.45e+03  
 991 5 2.3 2143 2 J00429 voltage-dependent cal 1.45e+03  
 992 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 993 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 994 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 995 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 996 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 997 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 998 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 999 5 2.3 2144 2 S71400 ash protein - fruit 1.45e+03  
 1000 5 2.3 26926 1 138344 cttin, cardiac muscle 1.45e+03

## ALIGNMENTS

RESULT 1  
 ENTRY JC680 #type complete  
 TITLE Vascular endothelial growth factor-related factor 167 - mouse  
 ALTERNATE\_NAMES VEGF-167, VEGF-167b, VEGF-167c, VEGF-167d, VEGF-167e, VEGF-167f, VEGF-167g, VEGF-167h, VEGF-167i, VEGF-167j, VEGF-167k, VEGF-167l, VEGF-167m, VEGF-167n, VEGF-167o, VEGF-167p, VEGF-167q, VEGF-167r, VEGF-167s, VEGF-167t, VEGF-167u, VEGF-167v, VEGF-167w, VEGF-167x, VEGF-167y, VEGF-167z  
 ORGANISM Mus musculus  
 DATE 10-May-1996 sequence\_revision 19-Jul-1998 text\_change 10-Sep-1997  
 REFERENCE JC6879  
 #authors  
 #journal Blochman, S.; Lagergren, J.; Grimond, S.; Sillars, G.; Nordenfalk, M.; Weber, G.; Hayward, N. (1996) 220:923-928  
 #title Characterization of the murine VEGF-related factor gene.  
 #accession JC6880  
 #molecule-type mRNA  
 #features 1-188 #label 107  
 #cross-references DB:013837; MID:91314335; PID:91314336

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SUMMARY #length 207 #molecular-weight 21514 #checksum 1535  
 QUERY Match 17.6% Score 39; DB 2; Length 207;  
 Best Local Similarity 10.0%; Pred. No. 5,82e-88;  
 Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 DB 65 KOLVSCVYVRCGCCPDGCLCVYTCGQVROHMLMT 104  
 QY 65 KOLVSCVYVRCGCCPDGCLCVYTCGQVROHMLMT 103

RESULT 3  
 ENTRY JC6879 #type fragments  
 TITLE Vascular endothelial growth factor (version 1) - bovine  
 ALTERNATE\_NAMES VEGF-121, VEGF-121b, VEGF-121c, VEGF-121d, VEGF-121e, VEGF-121f, VEGF-121g, VEGF-121h, VEGF-121i, VEGF-121j, VEGF-121k, VEGF-121l, VEGF-121m, VEGF-121n, VEGF-121o, VEGF-121p, VEGF-121q, VEGF-121r, VEGF-121s, VEGF-121t, VEGF-121u, VEGF-121v, VEGF-121w, VEGF-121x, VEGF-121y, VEGF-121z  
 ORGANISM Bos taurus  
 DATE 10-Dec-1993 sequence\_revision 10-Nov-1995 text\_change 10-Sep-1997  
 REFERENCE S38761  
 #authors Robinson, P.J.; Sontag, J.M.; Liu, J.P.; Pyke, E.M.; Slaughter, C.; McMahon, H.; Suedhof, T.C.  
 #journal Nature (1993) 365:183-186  
 #title VEGF-121 is a secreted protein regulated by protein kinase C phosphorylation  
 #accession S38763  
 #molecule-type mRNA  
 #features 1-171 #label 108  
 #cross-references DB:M31750; MID:9163810; PID:9163811

CLASSIFICATION #superfamily repeat homology  
 #alternative splicing alternative splicing  
 #keywords #length 71 #checksum 6371  
 SUMMARY  
 QUERY Match 3.2% Score 7; DB 2; Length 71;  
 Best Local Similarity 100.0%; Pred. No. 9.45e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 DB 58 PAPCPV 64  
 QY 11 PAPCPV 17

RESULT 4  
 ENTRY S38763 #type fragments  
 TITLE Vascular endothelial growth factor (version 1) - bovine  
 ALTERNATE\_NAMES VEGF-121, VEGF-121b, VEGF-121c, VEGF-121d, VEGF-121e, VEGF-121f, VEGF-121g, VEGF-121h, VEGF-121i, VEGF-121j, VEGF-121k, VEGF-121l, VEGF-121m, VEGF-121n, VEGF-121o, VEGF-121p, VEGF-121q, VEGF-121r, VEGF-121s, VEGF-121t, VEGF-121u, VEGF-121v, VEGF-121w, VEGF-121x, VEGF-121y, VEGF-121z  
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COMMENT This factor is a mitogen, that is selective for endothelial cells, and belongs to a family of growth factors. This factor is differentially spliced to produce two major isoforms, vascular endothelial growth factors 167 and VEGF 186.

GENETICS  
 #gene VEGF  
 #map-position 19  
 #feature 137/2  
 #domain signal sequence #status predicted #label 510  
 #product vascular endothelial growth factor related  
 #factor vascular endothelial growth factor related  
 #length 188 #molecular-weight 21442 #checksum 5881  
 SUMMARY  
 QUERY Match 17.6% Score 39; DB 2; Length 188;  
 Best Local Similarity 100.0%; Pred. No. 5,82e-88;  
 Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 DB 65 KOLVSCVYVRCGCCPDGCLCVYTCGQVROHMLMT 104  
 QY 65 KOLVSCVYVRCGCCPDGCLCVYTCGQVROHMLMT 103

RESULT 2  
 ENTRY JC6879 #type complete  
 TITLE Vascular endothelial growth factor-related factor 166 - mouse  
 ALTERNATE\_NAMES VEGF-166, VEGF-166b, VEGF-166c, VEGF-166d, VEGF-166e, VEGF-166f, VEGF-166g, VEGF-166h, VEGF-166i, VEGF-166j, VEGF-166k, VEGF-166l, VEGF-166m, VEGF-166n, VEGF-166o, VEGF-166p, VEGF-166q, VEGF-166r, VEGF-166s, VEGF-166t, VEGF-166u, VEGF-166v, VEGF-166w, VEGF-166x, VEGF-166y, VEGF-166z  
 ORGANISM Mus musculus  
 DATE 10-May-1996 sequence\_revision 19-Jul-1998 text\_change 10-Sep-1997  
 REFERENCE JC6879  
 #authors  
 #journal Blochman, S.; Lagergren, J.; Grimond, S.; Sillars, G.; Nordenfalk, M.; Weber, G.; Hayward, N. (1996) 220:923-928  
 #title Characterization of the murine VEGF-related factor gene.  
 #accession JC6880  
 #molecule-type mRNA  
 #features 1-207 #label 107  
 #cross-references DB:013836; MID:91314340; PID:91314344

COMMENT This factor is a mitogen, that is selective for endothelial cells, and belongs to a family of growth factors. This factor is differentially spliced to produce two major isoforms, vascular endothelial growth factors 167 and 186.

GENETICS  
 #gene VEGF  
 #map-position 19  
 #feature 137/2  
 #domain signal sequence #status predicted #label 510  
 #product vascular endothelial growth factor related  
 #factor vascular endothelial growth factor related  
 #length 188 #molecular-weight 21442 #checksum 5881

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SUMMARY #length 188 #molecular-weight 21442 #checksum 5881  
 QUERY Match 17.6% Score 39; DB 2; Length 188;  
 Best Local Similarity 100.0%; Pred. No. 5,82e-88;  
 Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 DB 65 KOLVSCVYVRCGCCPDGCLCVYTCGQVROHMLMT 104  
 QY 65 KOLVSCVYVRCGCCPDGCLCVYTCGQVROHMLMT 103

RESULT 5  
 ENTRY A33787 #type complete  
 TITLE Vascular endothelial growth factor (version 1) - bovine  
 ALTERNATE\_NAMES VEGF-121, VEGF-121b, VEGF-121c, VEGF-121d, VEGF-121e, VEGF-121f, VEGF-121g, VEGF-121h, VEGF-121i, VEGF-121j, VEGF-121k, VEGF-121l, VEGF-121m, VEGF-121n, VEGF-121o, VEGF-121p, VEGF-121q, VEGF-121r, VEGF-121s, VEGF-121t, VEGF-121u, VEGF-121v, VEGF-121w, VEGF-121x, VEGF-121y, VEGF-121z  
 ORGANISM Bos taurus  
 DATE 16-Mar-1990 sequence\_revision 16-Mar-1990 text\_change 10-Sep-1997  
 REFERENCE A33787  
 #authors Schilling, J.; Lau, R.; Gilep, T.; Fiddes, J.C.; Abraham, J.A.; Blochman, S.; Sontag, J.M.; Liu, J.P.; Pyke, E.M.; Slaughter, C.; McMahon, H.; Suedhof, T.C.  
 #journal Nature (1990) 346:183-186  
 #title VEGF-121 is a secreted protein regulated by protein kinase C phosphorylation  
 #accession A33787  
 #molecule-type mRNA  
 #features 1-171 #label 108  
 #cross-references DB:M31750; MID:9163810; PID:9163811

CLASSIFICATION #superfamily repeat homology  
 #alternative splicing alternative splicing  
 #keywords #length 130 #checksum 747  
 SUMMARY  
 QUERY Match 3.2% Score 7; DB 2; Length 130;  
 Best Local Similarity 100.0%; Pred. No. 9.45e-01;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 DB 101 CECRPR 107  
 QY 121 CECRPR 127

RESULT 6  
 ENTRY S38763 #type fragments  
 TITLE Vascular endothelial growth factor (version 1) - bovine  
 ALTERNATE\_NAMES VEGF-121, VEGF-121b, VEGF-121c, VEGF-121d, VEGF-121e, VEGF-121f, VEGF-121g, VEGF-121h, VEGF-121i, VEGF-121j, VEGF-121k, VEGF-121l, VEGF-121m, VEGF-121n, VEGF-121o, VEGF-121p, VEGF-121q, VEGF-121r, VEGF-121s, VEGF-121t, VEGF-121u, VEGF-121v, VEGF-121w, VEGF-121x, VEGF-121y, VEGF-121z  
 ORGANISM Bos taurus  
 DATE 10-Dec-1993 sequence\_revision 10-Nov-1995 text\_change 10-Sep-1997  
 REFERENCE S38761  
 #authors Robinson, P.J.; Sontag, J.M.; Liu, J.P.; Pyke, E.M.; Slaughter, C.; McMahon, H.; Suedhof, T.C.

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RESULT 6  
ENTRY 537956  
TITLE ovine vascular endothelial growth factor - sheep  
ORGANISM Ovis montanus  
DATE 13-Jun-1996  
ACCESSIONS 537956  
REFERENCES 537956 D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.  
#abstract 537956  
#submission 537956  
#accession 537956  
#status preliminary  
#molecule-type mRNA  
#eclassification 537956  
#cross-reference DML:889306; PID:889351  
SDRAWY 537956  
length 146 molecular-weight 17247 checksum 1136  
Query Match 3.24; Score 7; DB 2; Length 146;  
Beat Local Similarity 100.0%; Pred. No. 9.45e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
DB 137 CERNPK 137  
QY 131 CERNPK 137

RESULT 7  
ENTRY 837806  
TITLE nitric oxide hydrolase (EC 4.2.1.84) alpha chain - Brevibacterium  
ORGANISM Brevibacterium sp. (strain R312) (fragment)  
DATE 14-Jun-1998  
ACCESSIONS 837806  
REFERENCES 837806  
#author Mayeux, J.P.; Cerbasi, E.; Soulier, P.; Faucher, D.;  
#journal J. Biol. Chem. (1998) 273:674-677  
#title Purification, cloning, and primary structure of an  
#abstract R312: structural evidence for genetic coupling with nitric  
#eclassification 837806  
#cross-reference NCBI:9107222  
#accession 837806  
#status preliminary  
#molecule-type DNA  
#eclassification 837806  
#cross-reference CB:M60264; CB:M2283; PID:g44090; PID:g44092  
SDRAWY 837806  
length 188 checksum 1950

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Query Match 3.24; Score 7; DB 2; Length 188;  
Beat Local Similarity 100.0%; Pred. No. 9.45e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
DB 14 PROAPV 20  
QY 17 PROAPV 23

RESULT 8  
ENTRY 840080  
TITLE vascular endothelial growth factor precursor (version 2) -  
ORGANISM Ovis montanus  
DATE 30-Jun-1992  
ACCESSIONS 840080; B3787; A3355  
REFERENCES 840080; B3787; A3355  
#author Leung, D.W.; Cechanowicz, G.; Kung, W.J.; Goeddel, D.V.;  
#journal Science (1989) 245:1306-1309  
#title Vascular endothelial growth factor is a secreted angiogenic  
#eclassification 840080  
#cross-reference NCBI:90069608  
#accession 840080  
#molecule-type mRNA  
#eclassification 840080  
#cross-reference CB:M32767; PID:g163006; PID:g163007  
SDRAWY 840080  
length 1190 molecular-weight 126000 checksum 1007  
Query Match 3.24; Score 7; DB 2; Length 1190;  
Beat Local Similarity 100.0%; Pred. No. 9.45e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
DB 127 CERNPK 133  
QY 121 CERNPK 137

RESULT 11  
ENTRY 844881  
TITLE vascular endothelial growth factor-1 precursor - mouse  
ORGANISM Mus musculus  
DATE 10-Sep-1997  
ACCESSIONS 844881; A43351; A61039  
REFERENCES 844881; A43351; A61039  
#author Blumberg, P.M.; Stetler, S.; Rissau, W.;  
#journal Proc. Natl. Acad. Sci. U.S.A. (1997) 94:1515-1519  
#title Expression of vascular endothelial growth factor during  
#abstract embryonic angiogenesis and endothelial cell  
#eclassification 844881  
#cross-reference NCBI:9274860  
#accession 844881  
#molecule-type mRNA  
#eclassification 844881  
#cross-reference 1-190 #label BNC  
#status preliminary  
#molecule-type DNA  
#eclassification 844881  
#cross-reference 1-190 #label CON  
SDRAWY 844881  
length 190 molecular-weight 2356 checksum 1947  
Query Match 3.24; Score 7; DB 2; Length 190;  
Beat Local Similarity 100.0%; Pred. No. 9.45e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
DB 127 CERNPK 133  
QY 121 CERNPK 137

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PLASMID 137-190  
#domain signal sequence starting predicted label 5100  
#product vascular endothelial growth factor status  
#predicted label MVT  
#binding site carbohydrate (asn) (covalent) status  
#length 190 molecular-weight 2210 checksum 1399  
SDRAWY 137-190  
length 190 molecular-weight 2210 checksum 1399  
Query Match 3.24; Score 7; DB 2; Length 190;  
Beat Local Similarity 100.0%; Pred. No. 9.45e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
DB 127 CERNPK 133  
QY 121 CERNPK 137

RESULT 9  
ENTRY 852110  
TITLE vascular endothelial growth factor - pig  
ORGANISM Sus scrofa domestica  
DATE 14-Jul-1995  
ACCESSIONS 852110  
REFERENCES 852110  
#author Sharma, H.S.; Tang, Z.H.; Cho, B.C.; Verduyn, P.D.  
#journal Biochem. Biophys. Acta (1995) 1260:233-238  
#title Nucleotide sequence and expression of the porcine vascular  
#abstract endothelial growth factor.  
#eclassification 852110  
#status preliminary  
#molecule-type mRNA  
#eclassification 852110  
#cross-reference 1-190 #label BNA  
SDRAWY 852110  
length 190 molecular-weight 2266 checksum 1576  
Query Match 3.24; Score 7; DB 2; Length 190;  
Beat Local Similarity 100.0%; Pred. No. 9.45e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
DB 90 CERNPK 96  
QY 85 CERNPK 91

RESULT 10  
ENTRY A13987  
TITLE plasma-derived vascular endothelial cell growth factor - rat  
ORGANISM Rattus norvegicus  
DATE 16-Nov-1990  
ACCESSIONS A13987

REFERENCE A13987  
#author Comp, G.; Bayne, M.L.; Roderman, D.D.; Kwof, P.W.; Sullivan,  
#journal R.A.; Paillet, T.M.; Hope, D.A.; Thomas, K.A.  
#journal Proc. Natl. Acad. Sci. U.S.A. (1990) 87:7628-7632  
#title Amino acid and cDNA sequences of a vascular endothelial cell  
#abstract growth factor that is homologous to platelet-derived growth  
#eclassification A13987  
#accession A13987  
#status preliminary  
#molecule-type DNA  
#eclassification A13987  
#cross-reference CB:M32167; PID:g204287; PID:g204288  
SDRAWY A13987  
length 190 molecular-weight 2356 checksum 1947  
Query Match 3.24; Score 7; DB 2; Length 190;  
Beat Local Similarity 100.0%; Pred. No. 9.45e-01;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
DB 127 CERNPK 133  
QY 121 CERNPK 137

REFERENCE A43351  
#author Claffey, K.P.; Wilkins, W.O.; Spiegelman, B.M.  
#journal J. Biol. Chem. (1992) 267:1535-1539  
#title Vascular endothelial growth factor regulation by cell  
#abstract differentiation and activated second messenger pathways.  
#eclassification A43351  
#accession A43351

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**molecule-type mRNA
**residues 1-116, ER-119-190 #label C1A
**cross-references CB:95200; NID:9202350; PID:9202351
**source sequence extracted from NCBI backbone (NCBIN:110665,
**NCBP:110675)
REFERENCE A61039
  authors Rosenblatt, R.A.; Wegesi, J.F.; Hensel, W.J.; Ferrara, N.;
  journal Polman, J. (1990) 4:53-59
  title Conditional expression of the human factor XIIIa gene in
  tissue culture cells
  accession A61039
  keywords **molecule-type protein
  **residues 1-116, ER-119-190
  **cross-references CB:95200; NID:9202350; PID:9202351
  **source sequence extracted from NCBI backbone (NCBIN:110665,
  **NCBP:110675)
  length 190 molecular-weight 22440 checksum 3503
  query match Best Local Similarity 100.0%; Pred. No. 9.45e-01;
  Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
  Db 127 CERNR 133
  QY 121 CERNR 127

RESULT 12
ENTRY A6512
  title cold-regulated protein 2 - barley (fragment)
  organism Oryza sativa
  date 08-Sep-1993
  accession A6512
  authors Cattell, L.; Bartels, D.;
  journal Molecular Biology and Evolution 10:1504-1510
  title Molecular cloning and characterization of cold-regulated
  genes in barley
  accession A6512
  keywords **molecule-type protein
  **residues 1-202, #label C1T
  **cross-references CB:95200; NID:9202350; PID:9202351
  **source sequence extracted from NCBI backbone (NCBIN:110665,
  **NCBP:110675)
  length 202 checksum 4821
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  Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
  Db 116 RCHNR 122

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**cross-references NID:8927638
**accession S04472
**molecule-type DNA
**residues 1-207, #label IRE1
**cross-references EMBL:14668; NID:946429; PID:946430
**experimental-source strain N-774
**accession A1063
**residues 1-207, #label IRE2
**cross-references EMBL:14668; NID:946429; PID:946430
**experimental-source strain N-774
**accession A1063
**molecule-type protein
  authors Nishiyama, M.
  journal submitted to the EMBL Data Library, March 1989
  title Nucleic acid sequence
  accession S02070
  cross-references EMBL:14668; NID:946429; PID:946430
  experimental-source strain N-774
  length 207 molecular-weight 22996 checksum 2749
  query match Best Local Similarity 100.0%; Pred. No. 9.45e-01;
  Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
  Db 14 PROSP 20
  QY 17 PROSP 23

RESULT 15
ENTRY A4481
  title type complete
  organism Rhodococcus erythropolis
  date 08-Sep-1998
  accession A4481
  authors Bester, G.; Albrecht, U.; Steffer, S.; Rieau, W.
  journal submitted to the EMBL Data Library, July 1990
  title Expression of vascular endothelial growth factor during
  embryonic angiogenesis and endothelial cell
  differentiation
  accession A4481
  cross-references EMBL:14668; NID:946429; PID:946430
  experimental-source strain N-774
  length 207 molecular-weight 22996 checksum 2749
  query match Best Local Similarity 100.0%; Pred. No. 9.45e-01;
  Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
  Db 14 PROSP 20
  QY 17 PROSP 23

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**cross-references NID:9159474
**accession S15071
**molecule-type DNA
**residues 1-29,30,197-207, #label HAS
**cross-references EMBL:14668; NID:946429; PID:946430
**experimental-source strain N-774
**accession A1063
**residues 1-207, #label IRE2
**cross-references EMBL:14668; NID:946429; PID:946430
**experimental-source strain N-774
**accession A1063
**molecule-type protein
  authors Nishiyama, M.
  journal submitted to the EMBL Data Library, March 1989
  title Nucleic acid sequence
  accession S02070
  cross-references EMBL:14668; NID:946429; PID:946430
  experimental-source strain N-774
  length 207 molecular-weight 22996 checksum 2749
  query match Best Local Similarity 100.0%; Pred. No. 9.45e-01;
  Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
  Db 14 PROSP 20
  QY 17 PROSP 23

RESULT 15
ENTRY A4481
  title type complete
  organism Rhodococcus erythropolis
  date 08-Sep-1998
  accession A4481
  authors Bester, G.; Albrecht, U.; Steffer, S.; Rieau, W.
  journal submitted to the EMBL Data Library, July 1990
  title Expression of vascular endothelial growth factor during
  embryonic angiogenesis and endothelial cell
  differentiation
  accession A4481
  cross-references EMBL:14668; NID:946429; PID:946430
  experimental-source strain N-774
  length 207 molecular-weight 22996 checksum 2749
  query match Best Local Similarity 100.0%; Pred. No. 9.45e-01;
  Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
  Db 14 PROSP 20
  QY 17 PROSP 23

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#journal D. T. Stern, D.  
 J. Exp. Med. (1990) 172:1535-1545  
 #title Vascular permeability factor: a tumor-derived polypeptide  
 that induces endothelial cell and monocyte procoagulant  
 activity, and promotes monocyte migration.  
 #accession A60937  
 #molecule-type protein  
 #residues 27-33 #label CIA  
 #residues 55136  
 #journal Stern, D. T.; Fowl, R. C.; Mittle, Y. J.; Madhwa, R.  
 Biochim. Biophys. Acta (1994) 1224:165-170  
 #title Enhanced expression of multiple forms of VEGF is associated  
 with spontaneous immortalization of murine fibroblasts.  
 #accession 55136  
 #molecule-type protein  
 #residues 27-46 #label SUG  
 #comment Homodimers could be demonstrated for recombinant VEGF-2 but not  
 VEGF-1.  
 #keywords VEGF; alternative splicing; angiogenesis; disulfide bond;  
 glycoprotein; homodimer; mitogen  
 #feature  
 1-26 domain signal sequence status predicted #label SIG  
 27-33 domain signal sequence status predicted #label SIG  
 34-45 domain signal sequence status predicted #label SIG  
 46-55 domain signal sequence status predicted #label SIG  
 #summary  
 #length 214 #molecular-weight 25283 #checksum 2404  
 #query March 2 2 21 Score 7. DB 2. Length 214:  
 #residues 1-214  
 #molecular-weight 25283 #checksum 2404  
 #matches 77 Conservative 0: Mismatches 0: Indels 0: Gaps 0:  
 DB 127 CDSPPK 133  
 QY 131 CDSPPK 137  
 Search completed: Thu Nov 26 00:10:58 1998  
 Job time: 135 secs.

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92 7 3.2 612 18 W00596 SAp(Gly4Ser)2VEGF165( 9.57e+00  
93 7 3.2 640 3 R15456 Alpha-1,6-glycan-6-91 9.57e+00  
94 7 3.2 646 29 W55314 H. pylori ORF hpj1318 9.57e+00  
95 7 3.2 818 27 W55297 Human islet cell anti 9.57e+00  
96 7 3.2 876 23 W18091 Type I diabetes-asso 9.57e+00  
97 7 3.2 969 24 W25170 Human insulinoma-asso 9.57e+00  
98 7 3.2 1012 27 W55296 Macaque islet cell an 9.57e+00  
99 7 3.2 1015 27 W55345 Human protein tyrosin 9.57e+00  
100 7 3.2 1015 23 W18092 Type I diabetes-asso 9.57e+00

## ALIGNMENTS

RESULT 1  
ID W07611 standard; Protein: 221 AA.  
AC W07611;  
DE 01-SEP-1997 (first entry)  
KW Human vascular endothelial growth factor 3.  
KW Human vascular endothelial growth factor; hVEGF3; angiogenesis;  
KW tumour; inflammation; rheumatoid arthritis; diabetic retinopathy;  
KW psoriasis; bone; periodontium; ligament; antagonist.  
OS Homo sapiens.  
FH Key  
FT Location/Qualifiers  
FT 69..82 PDGF/VEGF family signature  
FT /label= "conserved PXCXXXXXRGCCN motif"  
FT W0639421-A1.  
PN 12-DEC-1996.  
PR 06-JUN-1995; U07283.  
PA (HUMA-) HUMAN GENOME SCI INC.  
PI Olsen H, Rosen CA, Hu JS;  
DR WPI: 97-043056/04.  
DR N-PSDB: T44071.  
PT DNA encoding human vascular endothelial growth factor 3 - useful to  
PT develop prods. for, e.g. stimulating angiogenesis or treating  
PT tumours, inflammation or rheumatoid arthritis  
PS Claim 11; Page 44; 56pp; English.  
CC This sequence is that of human vascular endothelial growth factor 3  
CC (VEGF3). The growth factor can be used to stimulate angiogenesis and  
CC wound healing, and to promote vascular tissue repair. It can also be  
CC used to induce the growth of damaged bone, periodontium or ligament  
CC tissue. VEGF3 antagonists can be used to inhibit tumour growth, or to  
CC treat diabetic retinopathy, inflammation, rheumatoid arthritis or  
CC psoriasis. VEGF3 is structurally related to the PDGF/VEGF family  
CC and it includes the conserved signature motif for the family (see  
CC features table).  
SQ Sequence 221 AA:

Query Match 100.0%; Score 221; DB 23; Length 221;  
Best Local Similarity 100.0%; Pred. No. 0.00e+00;

Matches 221; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 1 MRCRISGRPPAPPGVPAQAVSGPDAGHQRKVSVIDYTRATCGPREVVVPLVELM 60  
QY 1 MRCRISGRPPAPPGVPAQAVSGPDAGHQRKVSVIDYTRATCGPREVVVPLVELM 60  
Db 61 GTAKGLVPSGCVTVQRCGGCCPDGELCVPTGQHOVMQILMIRYPSQGLEMSLEHSHQ 120  
QY 61 GTAKGLVPSGCVTVQRCGGCCPDGELCVPTGQHOVMQILMIRYPSQGLEMSLEHSHQ 120  
Db 121 CECRPPKKSAAVHPDAATPHRPPQPRSPVGVWDSAPAPSPADITGSHSPRP1JPCPTG 180  
QY 121 CECRPPKKSAAVHPDAATPHRPPQPRSPVGVWDSAPAPSPADITGSHSPRP1JPCPTG 180  
Db 181 hHQPDPRTCTCRCTRTSFLRCGGLGRLNPDCTCRCKLRR 221  
QY 181 HHCQPPRTCTCRCTRTSFLRCGGLGRLNPDCTCRCKLRR 221

RESULT 2  
ID W04831 standard; Protein: 207 AA.  
AC W04831;

DT 28-APR-1997 (first entry)  
DE Vascular endothelial growth factor-B186.  
KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
KW embryonic development; wound healing; tissue reorganisation; antibody;  
KW cancer; metastatic risk; tumour cell; mouse.  
OS Homo sapiens.  
FH W0626736-A1.  
PN 06-SEP-1996.  
PR 01-MAR-1995; U02957.  
PR 06-JUN-1995; US-397651.  
PR 06-DEC-1995; US-469427.  
PA (LUDW-) LUDWIG INST CANCER RES.  
PI (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
PI Alitalo K, Eriksson U, Olofsson B, Pajusola K;  
DR WPI: 96-412582/41.  
DR N-PSDB: T37915.

5,607,918

PT Vascular endothelial growth factor VEGF-B proteins - useful to  
PT accelerate angiogenesis in wound healing, also related nucleic acid  
PT and antibodies for cancer diagnosis  
PS Claim 18; Page 62; 107pp; English.  
CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
CC proteins of the invention, which promote endothelial or mesodermal cell  
CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
CC diverse effects, depending on the specific biological context in which it  
CC is found. VEGF is a potent endothelial cell mitogen, and directly  
CC contributes to induction of angiogenesis in vivo by promoting endothelial  
CC cell growth during normal embryonic development, wound healing, and  
CC tissue regeneration/reorganisation. The VEGF proteins are distributed  
CC and expressed in tissues differently to VEGF. The proteins can therefore  
CC be used to accelerate angiogenesis in wound healing. Antibodies against  
CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
CC complementary to the coding sequences for the proteins of the invention  
CC can also be used to detect VEGF-B coding sequences. Quantification of  
CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
CC metastatic risk. VEGF-B expression in a cell can be retarded using  
CC antisense sequences direct against the VEGF coding sequences, this is  
CC especially useful in retarding VEGF expression in tumour cells.  
SQ Sequence 207 AA:

Query Match 67.4%; Score 149; DB 21; Length 207;  
Best Local Similarity 100.0%; Pred. No. 3.09e-233;

Matches 149; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 18 PDAQPSQDADGHRKQVSWIDYTRATCGPREVVVPLVELMGVAKGLVPSCTVGR 77  
QY 17 PDAQPSQDADGHRKQVSWIDYTRATCGPREVVVPLVELMGVAKGLVPSCTVGR 76  
Db 78 CGGCGPDDGELCVPTGQHOVMQILMIRYPSQGLEMSLEHSHQCECRPKKDSAVKPD 137  
QY 77 CGGCGPDDGELCVPTGQHOVMQILMIRYPSQGLEMSLEHSHQCECRPKKDSAVKPD 136  
Db 138 AATPHRPPQPRSPVGVWDSAPAPSPADIT 165  
QY 137 AATPHRPPQPRSPVGVWDSAPAPSPADIT 165

RESULT 3  
ID W00725 standard; Protein: 207 AA.  
AC W00725;  
DE 30-NOV-1996 (first entry)  
KW Vascular endothelial growth factor-1 like protein SOM175.  
KW Vascular endothelial growth factor; VEGF; VEGF165; SOM175; neuron;  
KW astroglial proliferation.  
OS Homo sapiens.  
FH Key  
FT Location/Qualifiers  
FT 1..21  
FT /label= sig\_peptide

PN W09627007-A1.  
 PD 06-SEP-1996.  
 PR 22-FEB-1996: AU0094.  
 PR 02-MAR-1995: AU-001457.  
 PR 20-NOV-1995: AU-006647.  
 PR 22-DEC-1995: AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
 PI Weber G;  
 DR N-PSDB: T33610.  
 PT New growth factor related to vascular endothelial growth factor -  
 PT useful for inducing astroglial proliferation and promoting neuronal  
 survival  
 PS Claim 11: Page 41: 113pp; English.  
 CC Human vascular endothelial growth factor (VEGF)-like polypeptide  
 CC (W00725) is capable of inducing the proliferation of vascular  
 CC endothelial cells, of interacting with flt-1/Kl-1 receptors,  
 CC and of inducing cell migration, cell survival and/or an increase  
 CC in intracellular levels of alkaline phosphatase. It shows 33.3%  
 CC identity with human VEGF (see also W00724). Splice variants  
 CC (W00726-28) of SOM175 have also been identified. Recombinant SOM175  
 CC can be produced in host cells transformed with vectors carrying  
 CC SOM175 cDNA (see also T33610). It is useful for inducing astroglial  
 CC proliferation and for promoting neural survival and/or proliferation.  
 SQ Sequence 207 AA;

Query Match 67.4%; Score 149; DB 19; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 3.09e-233;

Matches 149; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 18 pagapvsgdapgqhrkvwswidvyratcprevvplvtelngtvakqlvpscvtvqr 77  
 |||||||  
 OY 17 PAQAPVSPDAPGHRKRVSWIDVYTRATCPREVVPLVTELNGTVAKQLVPSCTVQR 76  
 |||||||  
 Db 78 cggccpddgltcvtgqhrvmqllmtrypsgqgmslehsqgcecrpkkkdsavkpr 137  
 |||||||  
 OY 77 CGGCCPDGGLCVPTRGQHVQMQLMIRYPSQGLGMSLEHSQCECRPKKDSAVKPR 136  
 |||||||  
 Db 138 aatphrprprrvsgwdsapgapspadit 166  
 |||||||  
 OY 137 AATPHRRPQRRSVPCWDSAPGAPSPADIT 165  
 |||||||

RESULT 4  
 ID W00727 standard; Protein: 143 AA.  
 AC W00727:

DT 30-NOV-1996 (first entry)  
 DE Vascular endothelial growth factor-like protein SOM175-e6+e7.  
 KW Vascular endothelial growth factor; VEGF; SOM175-e6+e7; neuron;  
 OS astroglial proliferation.  
 KM Homo sapiens.  
 FH Key Location/Qualifiers  
 FT peptide 1..21  
 FT peptide /label= sig-peptide  
 PN W09627007-A1.  
 PD 06-SEP-1996.  
 PR 22-FEB-1996: AU0094.  
 PR 02-MAR-1995: AU-001457.  
 PR 20-NOV-1995: AU-006647.  
 PR 22-DEC-1995: AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
 PI Weber G;  
 DR WPI: 96-412774/41.  
 DR N-PSDB: T33612.  
 PT New growth factor related to vascular endothelial growth factor -  
 PT useful for inducing astroglial proliferation and promoting neuronal  
 survival  
 PS Claim 13: Page 46: 113pp; English.  
 CC Splice variants (W00726-28) of the human vascular endothelial growth  
 CC factor-like polypeptide SOM175 (see also W00725) are products of  
 CC cDNA clones (see also T33611-13) respectively lacking exon 6, exons  
 CC CDNA clones (see also T33611-13) respectively lacking exon 6, exons

CC 6+7, and exon 4 of the SOM175 gene (see also T33610). They show at  
 CC least 1 of the properties of SOM175 including the ability to induce  
 CC proliferation of vascular endothelial cells, to interact with  
 CC flt-1/flk-1 receptors, and to induce cell migration, cell survival  
 CC and/or an increase in intracellular levels of alkaline phosphatase.  
 CC Recombinant SOM175 proteins can be used to induce astroglial  
 CC proliferation and to promote neural survival and/or proliferation.  
 SQ Sequence 143 AA;

Query Match 54.3%; Score 120; DB 19; Length 143;  
 Best Local Similarity 100.0%; Pred. No. 7.62e-184;

Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 18 pagapvsgdapgqhrkvwswidvyratcprevvplvtelngtvakqlvpscvtvqr 77  
 |||||||  
 OY 17 PAQAPVSPDAPGHRKRVSWIDVYTRATCPREVVPLVTELNGTVAKQLVPSCTVQR 76  
 |||||||  
 Db 78 cggccpddgltcvtgqhrvmqllmtrypsgqgmslehsqgcecrpkkkdsavkpr 137  
 |||||||  
 OY 77 CGGCCPDGGLCVPTRGQHVQMQLMIRYPSQGLGMSLEHSQCECRPKKDSAVKPR 136  
 |||||||

RESULT 5  
 ID W00726 standard; Protein: 188 AA.  
 AC W00726:

DT 30-NOV-1996 (first entry)  
 DE Vascular endothelial growth factor-like protein SOM175-e6.  
 KW Vascular endothelial growth factor; VEGF; SOM175-e6; neuron;  
 OS astroglial proliferation.  
 KM Homo sapiens.  
 FH Key Location/Qualifiers  
 FT peptide 1..21  
 FT peptide /label= sig-peptide  
 PN W09627007-A1.  
 PD 06-SEP-1996.  
 PR 22-FEB-1996: AU0094.  
 PR 02-MAR-1995: AU-001457.  
 PR 20-NOV-1995: AU-006647.  
 PR 22-DEC-1995: AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
 PI Weber G;  
 DR WPI: 96-412774/41.  
 DR N-PSDB: T33611.  
 PT New growth factor related to vascular endothelial growth factor -  
 PT useful for inducing astroglial proliferation and promoting neuronal  
 survival  
 PS Claim 12: Page 42-43: 113pp; English.  
 CC Splice variants (W00726-28) of the human vascular endothelial growth  
 CC factor-like polypeptide SOM175 (see also W00725) are products of  
 CC cDNA clones (see also T33611-13) respectively lacking exon 6, exons  
 CC 6+7, and exon 4 of the SOM175 gene (see also T33610). They show at  
 CC least 1 of the properties of SOM175 including the ability to induce  
 CC proliferation of vascular endothelial cells, to interact with  
 CC flt-1/flk-1 receptors, and to induce cell migration, cell survival  
 CC and/or an increase in intracellular levels of alkaline phosphatase.  
 CC Recombinant SOM175 proteins can be used to induce astroglial  
 CC proliferation and to promote neural survival and/or proliferation.  
 SQ Sequence 188 AA;

Query Match 53.8%; Score 119; DB 19; Length 188;  
 Best Local Similarity 100.0%; Pred. No. 3.81e-182;

Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 18 pagapvsgdapgqhrkvwswidvyratcprevvplvtelngtvakqlvpscvtvqr 77  
 |||||||  
 OY 17 PAQAPVSPDAPGHRKRVSWIDVYTRATCPREVVPLVTELNGTVAKQLVPSCTVQR 76  
 |||||||  
 Db 78 cggccpddgltcvtgqhrvmqllmtrypsgqgmslehsqgcecrpkkkdsavkpr 136  
 |||||||  
 OY 77 CGGCCPDGGLCVPTRGQHVQMQLMIRYPSQGLGMSLEHSQCECRPKKDSAVKPR 135  
 |||||||

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RESULT 6
ID W04829 standard; Protein; 188 AA.
AC W04829;
DE 28-APR-1997 (first entry)
DE Fibrosarcoma vascular endothelial growth factor-B167.
KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;
KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;
KW embryonic development; wound healing; tissue reorganisation; antibody;
KW cancer; metastatic risk; tumour cell; mouse.
OS Homo sapiens.
PN W09627007-A1.
PD 06-SEP-1996.
PF 01-MAR-1996; 002957.
PR 01-MAR-1995; US-397651.
PR 06-JUN-1995; US-469427.
PR 06-DEC-1995; US-569063.
PA (LUDW-) LUDWIG INST CANCER RES.
PA (VHFE-) UNIV HELSINKI LICENSING LTD OY.
PI Alfaleo K, Eriksson U, Olofsson B, Pajusola K;
PI WPI: 96-412582/41.
DR N-PSDB: T37913.
PT Vascular endothelial growth factor VEGF-B proteins - useful to
PT accelerate angiogenesis in wound healing, also related nucleic acid
PT and antibodies for cancer diagnosis
PS Claim 18; Page 59; 107pp; English.
CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)
CC proteins of the invention, which promote endothelial or mesodermal cell
CC proliferation. VEGF is also a glycosylated cationic dimer, and is
CC sometimes referred to as vascular permeability factor (VPF). VEGF has
CC diverse effects, depending on the specific biological context in which it
CC is found. VEGF is a potent endothelial cell mitogen, and directly
CC contributes to induction of angiogenesis in vivo by promoting endothelial
CC cell growth during normal embryonic development, wound healing, and
CC tissue regeneration/reorganisation. The VEGF proteins of the invention
CC share the angiogenic and other properties of VEGF, but are distributed
CC and expressed in tissues differently to VEGF. The proteins can therefore
CC be used to accelerate angiogenesis in wound healing. Antibodies against
CC the proteins can be used for inhibiting angiogenesis. The antibodies can
CC also be used diagnostically to quantitatively detect VEGF-B. Primers
CC complementary to the coding sequences for the proteins of the invention
CC can also be used to detect VEGF-B coding sequences. Quantification of
CC VEGF-B in cancer biopsy specimens may be useful as an indicator of
CC metastatic risk. VEGF-B expression in a cell can be retarded using
CC antisense sequences direct against the VEGF coding sequences, this is
CC especially useful in retarding VEGF expression in tumour cells.
SQ Sequence 188 AA;

Query Match 53.8%; Score 119; DB 21; Length 188;
Best Local Similarity 100.0%; Pred. No. 3.81e-182;
Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 18 pagavsgpdapghqrvkvsdvtracqprevvvplvtealmgtvakqlvpsctvgr 77
AC W04824;
DE 17 PAQAVSQPDAGHQRKRVSMIDVTRATCQPREVVVPLVTEALMGTVAQOLVPSCTVGR 76
QY
DB 78 cggccpddgdlccvptgqhvrmqimlirpssqjgmsleehsgccrpkkkdsavxdp 136
QY 77 CGGCCPDGDLCCVPTGQHVQVRMQLMIRPSSQJGMSLEHSGCCRPKKDSAVKPD 135

RESULT 7
ID W00728 standard; Protein; 101 AA.
AC W00728;
DE 30-NOV-1996 (first entry)
DE Vascular endothelial growth factor-like protein SOM175-e4.
KW Vascular endothelial growth factor; VEGF; SOM175-e4; neuron;
KW astroglial proliferation.
OS Homo sapiens.
PN Key location/Qualifiers
FT Key 1.21
FT peptide /label= Sig_peptide
PN W09627007-A1.

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PD 06-SEP-1996.
PF 22-FEB-1996; AU0094.
PR 02-MAR-1995; AU-001457.
PR 20-NOV-1995; AU-006647.
PR 22-DEC-1995; AU-007274.
PA (AMRA-) AMRAD OPERATIONS PTY LTD.
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;
PI Weber G;
PI WPI: 96-412774/41.
DR N-PSDB: T33613.
PT New growth factor related to vascular endothelial growth factor -
PT useful for inducing astroglial proliferation and promoting neuronal
PT survival
PS Claim 14; Page 48; 113pp; English.
CC Splice variants (W00726-28) of the human vascular endothelial growth
CC factor-like polypeptide SOM175 (see also W00725) are products of
CC CDNA clones (see also T33611-13) respectively lacking exon 6, exons
CC 6+7, and exon 4 of the SOM175 gene (see also T33610). They show at
CC least 1 of the properties of SOM175 including the ability to induce
CC proliferation of vascular endothelial cells, to interact with
CC flt-1/flk-1 receptors, and to induce cell migration, cell survival
CC and/or an increase in intracellular levels of alkaline phosphatase.
CC Recombinant SOM175 proteins can be used to induce astroglial
CC proliferation and to promote neural survival and/or proliferation.
SQ Sequence 101 AA;

Query Match 37.6%; Score 83; DB 19; Length 101;
Best Local Similarity 100.0%; Pred. No. 3.21e-121;
Matches 83; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 18 pagavsgpdapghqrvkvsdvtracqprevvvplvtealmgtvakqlvpsctvgr 77
AC W04824;
DE 17 PAQAVSQPDAGHQRKRVSMIDVTRATCQPREVVVPLVTEALMGTVAQOLVPSCTVGR 76
QY
DB 78 cggccpddgdlccvptgqhvrmqimlirpssqjgmsleehsgccrpkkkdsavxdp 100
QY 77 CGGCCPDGDLCCVPTGQHVQVRMQLMIRPSSQJGMSLEHSGCCRPKKDSAVKPD 99

RESULT 8
ID W04824 standard; peptide; 102 AA.
AC W04824;
DE 28-APR-1997 (first entry)
DE Vascular endothelial growth factor fragment #1.
KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;
KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;
KW embryonic development; wound healing; tissue reorganisation; antibody;
KW cancer; metastatic risk; tumour cell; mouse.
OS Mus musculus.
PN W09626736-A1.
PD 06-SEP-1996.
PF 01-MAR-1996; 002957.
PR 01-MAR-1995; US-397651.
PR 06-JUN-1995; US-469427.
PR 06-DEC-1995; US-569063.
PA (LUDW-) LUDWIG INST CANCER RES.
PA (VHFE-) UNIV HELSINKI LICENSING LTD OY.
PI Alfaleo K, Eriksson U, Olofsson B, Pajusola K;
PI WPI: 96-412582/41.
DR N-PSDB: T37909.
PT Vascular endothelial growth factor VEGF-B proteins - useful to
PT accelerate angiogenesis in wound healing, also related nucleic acid
PT and antibodies for cancer diagnosis
PS Claim 18; Page 53-54; 107pp; English.
CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)
CC proteins of the invention, which promote endothelial or mesodermal cell
CC proliferation. VEGF is also a glycosylated cationic dimer, and is
CC sometimes referred to as vascular permeability factor (VPF). VEGF has
CC diverse effects, depending on the specific biological context in which it
CC is found. VEGF is a potent endothelial cell mitogen, and directly
CC contributes to induction of angiogenesis in vivo by promoting endothelial
CC cell growth during normal embryonic development, wound healing, and

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CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SO Sequence 102 AA.

Query Match 17.6%; Score 39; DB 21; Length 102;  
 Best Local Similarity 100.0%; Pred. No. 4.35e-48;  
 Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 35 kqlvpscvtrgagccpddglaecvptgqhyrmqlm1 73  
 OY 65 KOLVPSCVTVORCGCCPDGLEGVPTGQHOVRMQLM1 103

RESULT 9  
 ID W04828 standard; Protein; 133 AA.  
 AC W04828:  
 DT 28-APR-1997 (first entry)  
 DE Vascular endothelial growth factor-B112.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse.  
 OS Mus musculus.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PR 01-MAR-1996; U02957.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PI (UHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alltalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 DR N-PSDB: T37912.

PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Clam 18; Page 58; 107pp; English.  
 CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
 CC proteins of the invention, which promote endothelial or mesodermal cell  
 CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
 CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
 CC diverse effects, depending on the specific biological context in which it  
 CC is found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothelial  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SO Sequence 133 AA.

Query Match 17.6%; Score 39; DB 21; Length 133;  
 Best Local Similarity 100.0%; Pred. No. 4.35e-48;

Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 66 kqlvpscvtrgagccpddglaecvptgqhyrmqlm1 104  
 OY 65 KOLVPSCVTVORCGCCPDGLEGVPTGQHOVRMQLM1 103

RESULT 10  
 ID W04826 standard; Protein; 188 AA.  
 AC W04826:  
 DT 28-APR-1997 (first entry)

DE Heart vascular endothelial growth factor-B167.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VPF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse.  
 OS Mus musculus.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PR 01-MAR-1996; U02957.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PI (UHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alltalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 DR N-PSDB: T37910.

PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Clam 18; Page 55-56; 107pp; English.  
 CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
 CC proteins of the invention, which promote endothelial or mesodermal cell  
 CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
 CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
 CC diverse effects, depending on the specific biological context in which it  
 CC is found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothelial  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SO Sequence 188 AA.

Query Match 17.6%; Score 39; DB 21; Length 188;  
 Best Local Similarity 100.0%; Pred. No. 4.35e-48;  
 Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 66 kqlvpscvtrgagccpddglaecvptgqhyrmqlm1 104  
 OY 65 KOLVPSCVTVORCGCCPDGLEGVPTGQHOVRMQLM1 103

RESULT 11  
 ID W00864 standard; Protein; 188 AA.  
 AC W00864:  
 DT 30-NOV-1996 (first entry)

DE Murine VRF167.  
 KW VRF; vascular endothelial growth factor; VEGF; SOM175; neuron;  
 KW astroglial proliferation.  
 OS Mus musculus.  
 FH Key Location/Qualifiers

FT peptide 1..21  
/label= sig-peptide  
PN W09627007-A1.  
PE 06-FEB-1996: AU0094.  
PR 02-MAR-1995: AU-001457.  
PR 20-NOV-1995: AU-006647.  
PR 22-DEC-1995: AU-007274.  
PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M.  
PI Weber G.  
DR WPI: 96-412774/41.  
DR N-PSDB: T13810.  
PT New growth factor related to vascular endothelial growth factor -  
PT useful for inducing astroglial proliferation and promoting neuronal  
survival  
PS Example 5: Fig 9: 113pp; English.  
CC VRF167 (W00863) is the murine homologue of an alternatively spliced  
CC variant (W00726) of human vascular endothelial growth factor-like  
CC polypeptide SOM175 (W00725), a protein capable of inducing astroglial  
CC proliferation and of promoting neural survival and/or proliferation.  
CC Its amino acid sequence was deduced from a cDNA clone (T13810)  
CC isolated from a new-born mouse brain cDNA library. VRF167 shows  
CC 88% identity and 92% similarity to its human counterpart. It lacks  
CC 101 amino acids found in VRF186 (W00863), the murine homologue  
CC of SOM175, owing to a deletion of exon 6 during splicing.  
SQ Sequence 188 AA;  
Query Match 17.6%; Score 39; DB 19; Length 188;  
Best Local Similarity 100.0%; Pred. No. 4.35e-48;  
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Db 66 kqlvpvcvtvrgcgccpddgglecvtgqhvrmqjlm1 104  
|||  
QY 65 kqlvpvcvtvrgcgccpddgglecvtgqhvrmqjlm1 103  
RESULT 12  
ID W04830 standard; Protein; 207 AA.  
AC W04830:  
DT 28-APR-1997 (first entry)  
DE Vascular endothelial growth factor-B186.  
KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
KW VEGF; permeability factor; cell mitogen; angiogenesis; cell growth;  
KW embryonic development; wound healing; tissue reorganisation; antibody;  
KW cancer; metastatic risk; tumour cell; mouse.  
OS Mus musculus.  
PN W09626736-A1.  
PD 06-SEP-1996.  
PE 01-MAR-1995: U02957.  
PR 01-MAR-1995: US-307651.  
PR 06-JUN-1995: US-468427.  
PR 06-DEC-1995: US-569063.  
PA (LUDWIG) LUDWIG INST CANCER RES.  
PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
PI Allitalo K, Eriksson U, Olofsson B, Pajusola K.  
DR WPI: 96-412582/41.  
DR N-PSDB: T37914.  
PT Vascular endothelial growth factor VEGF-B proteins - useful to  
PT accelerate angiogenesis in wound healing, also related nucleic acid  
PT and antibodies for cancer diagnosis  
PS Claim 18: Page 60-61: 107pp; English.  
CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
CC proteins of the invention, which promote endothelial or mesodermal cell  
CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
CC diverse effects, depending on the specific biological context in which it  
CC is found. VEGF is a potent endothelial cell mitogen, and directly  
CC contributes to induction of angiogenesis in vivo by promoting endothelial  
CC cell growth during normal embryonic development, wound healing, and  
CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
CC share the angiogenic and other properties of VEGF, but are distributed

CC and expressed in tissues differently to VEGF. The proteins can therefore  
CC be used to accelerate angiogenesis in wound healing. Antibodies against  
CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
CC complementary to the coding sequences for the proteins of the invention  
CC can also be used to detect VEGF-B coding sequences. Quantification of  
CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
CC metastatic risk. VEGF-B expression in a cell can be retarded using  
CC antisense sequences directed against the VEGF coding sequences, this is  
CC especially useful in retarding VEGF expression in tumour cells.  
SQ Sequence 207 AA;  
Query Match 17.6%; Score 39; DB 21; Length 207;  
Best Local Similarity 100.0%; Pred. No. 4.35e-48;  
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Db 66 kqlvpvcvtvrgcgccpddgglecvtgqhvrmqjlm1 104  
|||  
QY 65 kqlvpvcvtvrgcgccpddgglecvtgqhvrmqjlm1 103  
RESULT 13  
ID W00863 standard; Protein; 207 AA.  
AC W00863:  
DT 30-NOV-1996 (first entry)  
DE Murine VRF186.  
KW VRF: vascular endothelial growth factor; VEGF; SOM175; neuron;  
KW astroglial proliferation.  
OS Mus musculus.  
PN W09627007-A1.  
PD 06-SEP-1996.  
PE 22-FEB-1996: AU0094.  
PR 02-MAR-1995: AU-001457.  
PR 20-NOV-1995: AU-006647.  
PR 22-DEC-1995: AU-007274.  
PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M.  
PI Weber G.  
DR WPI: 96-412774/41.  
DR N-PSDB: T13809.  
DT 28-APR-1997 (first entry)  
DE New growth factor related to vascular endothelial growth factor -  
PT useful for inducing astroglial proliferation and promoting neuronal  
survival  
PS Example 5: Fig 9: 113pp; English.  
CC VRF186 (W00863) is the murine homologue of human vascular endothelial  
CC growth factor-like polypeptide SOM175 (W00725), a protein capable of  
CC inducing astroglial proliferation and of promoting neural survival  
CC and/or proliferation. Its amino acid sequence was deduced from a  
CC cDNA clone (T13809) isolated from a new-born mouse brain cDNA  
CC library. An alternatively spliced variant, VRF169 (W00864), was  
CC also identified.  
SQ Sequence 207 AA;  
Query Match 17.6%; Score 39; DB 19; Length 207;  
Best Local Similarity 100.0%; Pred. No. 4.35e-48;  
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Db 66 kqlvpvcvtvrgcgccpddgglecvtgqhvrmqjlm1 104  
|||  
QY 65 kqlvpvcvtvrgcgccpddgglecvtgqhvrmqjlm1 103  
RESULT 14  
ID W04827 standard; Protein; 195 AA.  
AC W04827:  
DT 28-APR-1997 (first entry)  
DE Heart vascular endothelial growth factor-B174.  
KW Endothelial cell; proliferation; vascular endothelial growth factor; VPF;  
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
KW VEGF; permeability factor; cell mitogen; angiogenesis; cell growth;

KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse.  
 OS Mus musculus.  
 PN W04824-W04831.  
 PD 06-SEP-1996.  
 PR 01-MAR-1996; US-397651.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDM-) LUDMIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alltalo K, Eriksson U, Olofsson B, Pajusola K;  
 PI WPI: 96-412582/41.  
 DR N-PSDB: 173911.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing; also related nucleic acid  
 PT and antibodies for cancer diagnosis.  
 PS Claim 18; Page 56-57; 107pp; English.  
 CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
 CC proteins of the invention, which promote endothelial or mesodermal cell  
 CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
 CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
 CC diverse effects, depending on the specific biological context in which it  
 CC is found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothelial  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SQ Sequence 195 AA;

Query Match 15.8%; Score 35; DB 21; Length 195;  
 Best Local Similarity 100.0%; Pred. No. 1.32e-41;  
 Matches 35; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 66 KGLVPSCVTVRCGCGCCPDGJECVPTGQHVYRMQ 100  
 |||  
 QY 65 KGLVPSCVTVRCGCGCCPDGJECVPTGQHVYRMQ 99

RESULT 15  
 ID W04833 standard; peptide: 23 AA.  
 AC W04833.  
 DT 30-APR-1997 (first entry)  
 DE N-terminal peptide of vascular endothelial growth factor-B.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VPF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; human.  
 OS Homo sapiens.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PR 01-MAR-1996; US-397651.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDM-) LUDMIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alltalo K, Eriksson U, Olofsson B, Pajusola K;  
 PI WPI: 96-412582/41.  
 DR Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing; also related nucleic acid  
 PT and antibodies for cancer diagnosis

PS Example 8; Page 31; 107pp; English.  
 CC This sequence represents the N-terminal peptide of a vascular endothelial  
 CC growth factor (VEGF) protein of the invention (see W04824-W04831). This  
 CC sequence was coupled to keyhole limpet haemocyanin, to produce antibodies  
 CC against human VEGF-B. VEGF is a glycosylated cationic dimer, which  
 CC promotes endothelial or mesodermal cell proliferation, and is sometimes  
 CC referred to as vascular permeability factor (VPF). VEGF has diverse  
 CC effects, depending on the specific biological context in which it is  
 CC found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothelial  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SQ Sequence 23 AA;

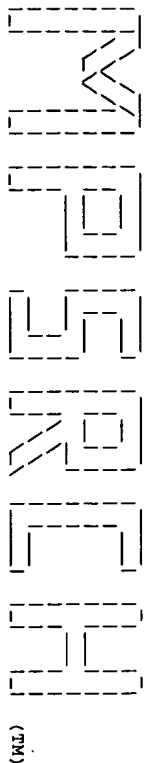
Query Match 10.4%; Score 23; DB 21; Length 23;  
 Best Local Similarity 100.0%; Pred. No. 1.47e-22;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 1 sgpdapghrkvsyldtyrtat 23  
 |||  
 QY 23 SQPDAPGHORKVSIMIDYTRAT 45

Search completed: Mon Nov 30 13:09:07 1998  
 Job time : 50 secs.

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Mpsrch\_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Thu Nov 26 00:01:57 1998: Maspar time 4.69 Seconds 148.639 Million cell updates/sec

Tabular output not generated.

Title: >US-09-033-662-2  
Description: (69-82) from US09033662.pep  
Perfect Score: 121  
Sequence: 1 PSCVTYQRCGCCP 14

Scoring table:  
PAM 150  
Gap 11

Searched: 165420 seqs, 49795644 residues

Post-processing: Minimum Match 0%  
Listing first 45 summaries

Database:

sptrembl6  
1:sp.archaea 2:sp.bacteria 3:sp.fungi 4:sp.human  
5:sp.invertebrate 6:sp.mammal 7:sp.mhc 8:sp.organelle  
9:sp.phage 10:sp.plant 11:sp.rodent 12:sp.unclassified  
13:sp.vertebrate 14:sp.virus

Statistics: Mean 23.748: Variance 38.778: scale 0.612

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description	Pred. No.
1	121	100.0	116	11	035485	VASCULAR ENDOTHELIAL G 1.08e-12
2	121	100.0	150	11	054881	VASCULAR ENDOTHELIAL G 1.08e-12
3	121	100.0	207	11	064290	VASCULAR ENDOTHELIAL G 1.08e-12
4	121	100.0	207	4	016528	VEGF RELATED FACTOR IS 1.38e-07
5	97	80.2	183	11	063740	PDGF PROTEIN (FRAGMENT 1.38e-07
6	97	80.2	185	4	015354	C-SIS ONCOGENE (PLATEL 1.38e-07
7	97	80.2	210	6	029613	C-SIS ONCOGENE (PLATEL 1.38e-07
8	97	80.2	271	14	041283	POLYPROTEIN PRECURSOR 1.38e-07
9	93	76.9	232	4	016889	VASCULAR ENDOTHELIAL G 9.15e-07
10	92	76.0	418	13	057352	VASCULAR ENDOTHELIAL G 1.46e-06
11	91	75.2	75	6	018843	VASCULAR ENDOTHELIAL G 2.34e-06
12	91	75.2	326	11	035251	VASCULAR ENDOTHELIAL G 2.34e-06
13	91	75.2	354	4	043915	GROWTH FACTOR FIGF. 2.34e-06
14	91	75.2	358	11	P97946	VASCULAR ENDOTHELIAL G 2.34e-06
15	87	71.9	141	11	070123	VEGF115 1.49e-05
16	87	71.9	144	13	073822	VASCULAR ENDOTHELIAL G 1.49e-05
17	87	71.9	148	13	042571	VASCULAR ENDOTHELIAL G 1.49e-05
18	87	71.9	188	13	073682	VASCULAR ENDOTHELIAL G 1.49e-05
19	87	71.9	194	13	042572	VASCULAR ENDOTHELIAL G 1.49e-05
20	84	69.4	158	11	063434	PLACENTA GROWTH FACTOR 5.89e-05

21	75	62.0	463	2	007346	PMCA, COMPLETE CDS. 3.27e-03
22	75	62.0	463	2	P73374	HYPOTHETICAL 51.5 KD P 3.27e-03
23	72	59.5	126	11	035757	VASCULAR ENDOTHELIAL G 1.20e-03
24	64	52.9	476	14	080890	ENNAL. 3.45e-01
25	64	52.9	2168	14	041174	POLYPROTEIN. 3.45e-01
26	62	51.2	1017	5	060960	L3162-112. 7.75e-01
27	61	50.4	122	5	023258	NC373.2. 1.16e+00
28	61	50.4	327	5	018975	SIMILAR TO CUTICLE COL 1.16e+00
29	61	50.4	495	5	016912	F10D2.3 PROTEIN. 1.16e+00
30	59	48.8	466	2	031545	VEFO PROTEIN. 2.55e+00
31	58	47.9	2225	5	045881	W01F3.3. 3.77e+00
32	57	47.1	159	10	065372	F1F1.6. 5.54e+00
33	57	47.1	168	13	090653	CELL DIVISION CYCLE CO 5.54e+00
34	57	47.1	175	4	007628	KERATIN, HIGH-SULFUR M 5.54e+00
35	57	47.1	177	4	007627	KERATIN, HIGH-SULFUR M 5.54e+00
36	57	47.1	1361	14	086623	SURFACE GLYCOPROTEIN S 5.54e+00
37	57	47.1	1361	14	066199	SURFACE PROTEIN PRECUR 5.54e+00
38	57	47.1	1363	14	066291	SURFACE PROTEIN PRECUR 5.54e+00
39	57	47.1	6420	2	P95814	FK506 POLYKETIDE SYNTH 8.13e+00
40	56	46.3	375	2	068393	RADICAL ACTIVATING PRO 8.13e+00
41	56	46.3	511	1	029309	GLUTAMATE SYNTHASE (GL 8.13e+00
42	55	45.5	108	2	005928	PUTATIVE TRANSCRIPTION 1.19e+01
43	55	45.5	133	2	006787	HYPOTHETICAL 12.7 KD P 1.19e+01
44	55	45.5	286	5	044160	CDA.2 PROTEIN. 1.19e+01
45	55	45.5	4114	11	054796	TENASCIN-X. 1.19e+01

## ALIGNMENTS

RESULT	ID	1	PRELIMINARY:	PRT:	116 AA.
AC	035485;				
DT	01-JAN-1998 (TREMBLREL. 05, CREATED)				
DT	01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)				
DT	01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)				
DE	VASCULAR ENDOTHELIAL GROWTH FACTOR B 186 PRECURSOR (FRAGMENT).				
OC	RATTUS NORVEGICUS (RAT).				
OC	EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;				
OC	EUTHERIA; RODENTIA.				
RP	SEQUENCE FROM N.A.				
RC	STRAIN-SPRAGUE-DAWLEY; TISSUE-PLACENTA;				
RA	MANDRIOTA S.J., PEPPER M.S.;				
RL	SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.				
DR	EMBL: AF032925; G2641622; -				
DR	PROSITE: PS00249; PDGF. 1.				
DR	PFAM: PF00341; PDGF.				
FT	NON_TER	1			
FT	NON_TER	116			
SO	SEQUENCE	116 AA; 12743 MW; 106E2733 CRC32;			
Query Match 100.0%; Score 121; DB 11; Length 116;					
Best Local Similarity 100.0%; Pred. No. 1.08e-12;					
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;					
DB	20 PSCVTYQRCGCCP 33				
QY	69 PSCVTYQRCGCCP 82				
RESULT 2					
AC	054881;				
DT	01-JUN-1998 (TREMBLREL. 06, CREATED)				
DT	01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)				
DT	01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)				
DE	VASCULAR ENDOTHELIAL GROWTH FACTOR B (FRAGMENT).				
OC	RATTUS NORVEGICUS (RAT).				
OC	EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;				
OC	EUTHERIA; RODENTIA.				
RP	SEQUENCE FROM N.A.				
RC	TISSUE-HEART;				

RA WEIL J., ESCHENHAGEN T., MITTMANN C., SCHOLZ H.;  
 RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.  
 DR EMBL: AF022952; G276602;  
 DR PROSITE: PS00249; PDGF: 1.  
 FT NON-TER 1  
 FT NON-TER 150  
 SO SEQUENCE 150 AA; 17243 MW; D088D4D3 CRC32;

Query Match 100.0%; Score 121; DB 11; Length 150;  
 Best Local Similarity 100.0%; Pred. No. 1,08e-12;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 39 PSCVTYORCGGCCP 52  
 OY 69 PSCVTYORCGGCCP 82

RESULT 3  
 ID 064290; PRELIMINARY; PRT; 207 AA.  
 AC 064290;  
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)  
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)  
 DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN  
 DE (VASCULAR ENDOTHELIAL GROWTH FACTOR B 186).  
 GN VRF OR VEGF-B.  
 OS MUS MUSCULUS (MOUSE).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 RN [1]  
 RC TISSUE-FROM N.A.  
 RX MEDLINE: 96197355.  
 RA OLOFSSON B.;  
 RL PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-HEART;  
 RX MEDLINE: 96325041.  
 RA OLOFSSON B.; PAUSOLA K., VON EULER G., CHILOV D., ALLTALO K.,  
 RA ERIKSSON U.;  
 RL J. BIOL. CHEM. 271:19310-19317(1996).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-WHOLE BRAIN;  
 RX MEDLINE: 96183052.  
 RA TOWNSON S., LAGERCRANTZ J., GRIMOND S., STILINS G., NORDENSKJOLD M.,  
 RA WEBER G., HAYWARD N.K.;  
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:922-928(1996).  
 DR EMBL: U52820; G1488261;  
 DR EMBL: U43836; G1314334;  
 DR MGD; MGI:106199; VRF;  
 DR PROSITE: PS00249; PDGF: 1.  
 DR PFAM: PF00341; PDGF.  
 SO SEQUENCE 207 AA; 21914 MW; 4FB6C405 CRC32;

Query Match 100.0%; Score 121; DB 11; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 1,08e-12;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 PSCVTYORCGGCCP 83  
 OY 69 PSCVTYORCGGCCP 82

RESULT 4  
 ID 016528; PRELIMINARY; PRT; 207 AA.  
 AC 016528;  
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)  
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)  
 DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)  
 DE VEGF RELATED FACTOR ISOFORM VRF186 PRECURSOR,  
 GN VRF OR VEGF-B.

OS HOMO SAPIENS (HUMAN).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 RN [1]  
 RC TISSUE-BRAIN;  
 RX GRIMOND S., LAGERCRANTZ J., DRINKWATER C., STILINS G., TOWNSON S.,  
 RA POLLOCK P., GOTLEY D., CARSON E., RAKAR S., NORDENSKJOLD M., WARD L.,  
 RA HAYWARD N., WEBER G.;  
 RL GENOME RES. 6:122-129(1996).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-FIBROSARCOMA HT-1080;  
 RX MEDLINE: 96197355.  
 RA OLOFSSON B.;  
 RL PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-FIBROSARCOMA HT-1080;  
 RX MEDLINE: 96325041.  
 RA OLOFSSON B.; PAUSOLA K., VON EULER G., CHILOV D., ALLTALO K.,  
 RA ERIKSSON U.;  
 RL J. BIOL. CHEM. 271:19310-19317(1996).  
 DR EMBL: U43368; G1216396;  
 DR EMBL: U52819; G1488259;  
 DR PROSITE: PS00249; PDGF: 1.  
 DR PFAM: PF00341; PDGF.  
 KM SIGNAL.  
 FT SIGNAL.  
 FT CHAIN 22  
 SO SEQUENCE 207 AA; 21602 MW; 16BDF6F1 CRC32;

Query Match 100.0%; Score 121; DB 4; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 1,08e-12;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 PSCVTYORCGGCCP 83  
 OY 69 PSCVTYORCGGCCP 82

RESULT 5  
 ID 063740; PRELIMINARY; PRT; 183 AA.  
 AC 063740;  
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)  
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)  
 DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)  
 DE PDGF PROTEIN (FRAGMENT).  
 GN C-SIS.  
 OS RATTUS NORVEGICUS (RAT).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 RN [1]  
 RC TISSUE-LUNG;  
 RX MOATS-STARS B.M., XU L., JARVIS W., STILES A.D.;  
 RL SUBMITTED (APR-1995) TO EMBL/GENBANK/DBJ DATA BANKS.  
 DR EMBL: U41623; G769680;  
 DR PROSITE: PS00249; PDGF: 1.  
 DR PFAM: PF00341; PDGF.  
 FT NON-TER 1  
 FT NON-TER 183  
 SO SEQUENCE 183 AA; 20160 MW; 69908655 CRC32;

Query Match 80.2%; Score 97; DB 11; Length 183;  
 Best Local Similarity 76.9%; Pred. No. 1.38e-07;  
 Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 104 PSCVTYORCGGCC 116  
 OY 69 PSCVTYORCGGCC 81

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RESULT 6
ID 015354 PRELIMINARY; PRT; 185 AA.
AC Q15354;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
DE C-SIS PROTO-ONCOGENE (FRAGMENT).
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
OC EUTHERIA; PRIMATES.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-CHORIOCARCINOMA;
RX MEDLINE; 9538493.
RA DIRKS R.P.H., ONNEKINK C., JANSSEN H.J., DE JONG A., BLOEMERS H.P.J.;
RL NUCLEIC ACIDS RES. 23:2815-2822(1995).
DR EMBL; X83705; G951025; -
DR PROSITE; PS00249; PDGF; 1.
DR PRAM; PF00341; PDGF.
FT NON_TER 185
SQ SEQUENCE 185 AA; 20774 MW; C5FAA883 CRC32;

Query Match 80.2%; Score 97; DB 4; Length 185;
Best Local Similarity 76.9%; Pred. No. 1.38e-07;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 107 PCVTVORCGGCC 119
|:|:|:|:|:|:|
Qy 69 PSCVTVORCGGCC 81

RESULT 7
ID Q29613 PRELIMINARY; PRT; 210 AA.
AC Q29613;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
DE C-SIS ONCOGENE (PLATELET-DERIVED GROWTH FACTOR).
OS FELIS SILVESTRIS CATUS (CAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
OC EUTHERIA; CARNIVORA.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 87146463.
RA VAN DEN OUMELAND A.M.W., VAN GRONINGEN J.J.M., SCHALKEN J.A.,
RA VAN NECK H.W., BLOEMERS P.J., VAN DE VEN W.J.M.;
RL NUCLEIC ACIDS RES. 15:959-970(1987).
RN [2]
RP SEQUENCE OF 1-21 FROM N.A.
RX MEDLINE; 86120370.
RA VAN DEN OUMELAND A.M.W., ROEBROEK A.J.M., SCHALKEN J.A.,
RA CLAESSEN C.A.A., BLOEMERS H.P.J., VAN DE VEN W.J.M.;
RL NUCLEIC ACIDS RES. 14:765-778(1986).
DR EMBL; X06297; E222210; -
DR EMBL; X06298; E222210; JOINED.
DR EMBL; X06299; E222210; JOINED.
DR EMBL; X06300; E222210; JOINED.
DR EMBL; X06301; E222210; JOINED.
DR EMBL; X06302; E222210; JOINED.
DR EMBL; X03494; G1110; -
DR EMBL; X03494; G1110; -
DR EMBL; M25353; G163887; JOINED.
DR EMBL; M25353; G163887; JOINED.
DR EMBL; M25354; G163887; JOINED.
DR EMBL; M25355; G163887; JOINED.
DR EMBL; M25356; G163887; JOINED.
DR EMBL; M25357; G163887; JOINED.
DR PROSITE; PS00249; PDGF; 1.
DR PRAM; PF00341; PDGF.
SQ SEQUENCE 210 AA; 23649 MW; 1579ED72 CRC32;

Query Match 80.2%; Score 97; DB 6; Length 210;
Best Local Similarity 76.9%; Pred. No. 1.38e-07;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
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Db 126 PCVTVORCGGCC 138
|:|:|:|:|:|:|
Qy 69 PSCVTVORCGGCC 81

RESULT 8
ID 041283 PRELIMINARY; PRT; 271 AA.
AC 041283;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
DE POLYPROTEIN PRECURSOR ENV-SIS.
OS STIMAN SARCOMA VIRUS.
OC VIRIDAE; SS-RNA ENVELOPED VIRUSES; POSITIVE-STRAND; RETROVIRIDAE;
OC ONCOVIRIDAE.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 83144004.
RA DEVARE S.G., REDDY P.E., LAW J.D., ROBBINS K.C., AARONSON S.A.;
RL PROC. NATL. ACAD. SCI. U.S.A. 80:731-735(1983).
DR EMBL; J02394; G332621; -
DR PROSITE; PS00249; PDGF; 1.
DR PRAM; PF00341; PDGF.
KW POLYPROTEIN.
SQ SEQUENCE 271 AA; 30328 MW; 17F778D3 CRC32;

Query Match 80.2%; Score 97; DB 14; Length 271;
Best Local Similarity 76.9%; Pred. No. 1.38e-07;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 152 PCVTVORCGGCC 164
|:|:|:|:|:|:|
Qy 69 PSCVTVORCGGCC 81

RESULT 9
ID Q16889 PRELIMINARY; PRT; 232 AA.
AC Q16889;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
OC EUTHERIA; PRIMATES.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 92168017.
RA HOUCK K.A., FERRARA N., WINER J., CACHIANES G., LI B., LEUNG D.W.;
RL MOL. ENDOCRINOL. 5:1806-1814(1991).
DR EMBL; S85192; G2461556; -
DR EMBL; S85224; E91787; -
DR EMBL; S85199; E91787; JOINED.
DR EMBL; S85201; E91787; JOINED.
DR EMBL; S85219; E91787; JOINED.
DR EMBL; S85223; E91787; JOINED.
DR PROSITE; PS00249; PDGF; 1.
DR PRAM; PF00341; PDGF.
SQ SEQUENCE 232 AA; 27042 MW; 344182D1 CRC32;

Query Match 76.9%; Score 93; DB 4; Length 232;
Best Local Similarity 76.9%; Pred. No. 9.15e-07;
Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 75 PSCVPLMRCGCC 87
|:|:|:|:|:|:|
Qy 69 PSCVTVORCGGCC 81

RESULT 10
ID 057352 PRELIMINARY; PRT; 418 AA.
AC 057352;
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DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR.
GN VEGF-C.
OS COTURNIX COTURNIX JAPONICA (JAPANESE QUAIL).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; AVES; NEOGNATHAE;
OC GALLIFORMES.
RN [1]
RP SEQUENCE FROM N.A.
RA EICHMANN A., CORBEL C., JAFFREDO T., BREANT V., JOUKOV V., KUMAR V.,
RA ALITALO K., LE DOUARIN N.M.;
RA DEVELOPMENT 125:743-752(1998).
DR EMBL: Y15837, E1215492; -.
DR PROSITE: PS00249; PDGF. 1.
KW SIGNAL.
FT CHAIN 1 31 POTENTIAL.
SQ SEQUENCE 418 AA; 46839 MW; B7862854 CRC32;

Query Match
Best Local Similarity 76.0%; Score 92; DB 13; Length 418;
Matches 9; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

DB 153 PSCVTVORCGGCC 165
QY 69 PSCVTVORCGGCC 81

RESULT 11
ID 018843; PRELIMINARY; PRT; 75 AA.
AC 018843;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT).
GN VEGF.
OS ORYCTOLAGUS CUNICULUS (RABBIT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
OC EUTHERIA; LAGOMORPHA.
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN-WHITE NEW ZEALAND; TISSUE-SKELETAL MUSCLE;
RA MEDLINE: 98191144.
RA SKORJANC D., JASCHINSKI F., HEINE G., PETTE D.;
RL AM. J. PHYSIOL. 274:0-0(1998).
DR EMBL: AF022179; G2465453; -.
DR PROSITE: PS00249; PDGF. 1.
DR PFAM: PF00341; PDGF. 1.
FT NON_TER 1
FT NON_TER 75
SQ SEQUENCE 75 AA; 8720 MW; 716988DE CRC32;

Query Match
Best Local Similarity 75.2%; Score 91; DB 6; Length 75;
Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

DB 17 PSCVTVORCGGCC 29
QY 69 PSCVTVORCGGCC 81

RESULT 12
ID 035251; PRELIMINARY; PRT; 326 AA.
AC 035251;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR D.
GN VEGF-D.
OS RATUUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
OC EUTHERIA; RODENTIA.

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RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-SPRAGUE DAWLEY;
RX MEDLINE: 97349118.
RA YAMADA Y., NEZU J., SHIMANE M., HIRATA Y.;
RL GENOMICS 42:483-488(1997).
DR EMBL: AF014827; G2333339; -.
DR PROSITE: PS00249; PDGF. 1.
DR PFAM: PF00341; PDGF. 1.
SQ SEQUENCE 326 AA; 37112 MW; B30608D3 CRC32;

Query Match
Best Local Similarity 75.2%; Score 91; DB 11; Length 326;
Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

DB 139 PSCVTVORCGGCC 151
QY 69 PSCVTVORCGGCC 81

RESULT 13
ID 043915; PRELIMINARY; PRT; 354 AA.
AC 043915;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
DE GROWTH FACTOR FIGF.
GN FIGF OR VEGF-D.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;
OC EUTHERIA; PRIMATES.
RN [1]
RP SEQUENCE FROM N.A.
RA ROCCHIGIANI M., LESTINGI M., LUDDI A., ORLANDINI M., FRANCO B.,
RA ROSSI E., BALABAO B., ZUFFARDI O., OLIVIERO S.;
RL GENOMICS 47:207-216(1998).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE-LUNG;
RA YAMADA Y., NEZU J., SHIMANE M., HIRATA Y.;
RL GENOMICS 42:483-488(1997).
RN [3]
RP SEQUENCE FROM N.A.
RA ACHEN M.G., JELTSCH M., KUKK E., MAERKINEN T., VITALI A., WILKS A.F.,
RA ALITALO K., STACKER S.A.;
RL PROC. NATL. ACAD. SCI. U.S.A. 95:548-553(1998).
DR EMBL: Y12864; E1252372; -.
DR EMBL: Y12865; E1252372; JOINED.
DR EMBL: Y12866; E1252372; JOINED.
DR EMBL: Y12867; E1252372; JOINED.
DR EMBL: Y12868; E1252372; JOINED.
DR EMBL: Y12869; E1252372; JOINED.
DR EMBL: Y12870; E1252372; JOINED.
DR EMBL: D89630; D1025175; -.
DR EMBL: AJ000185; E1250855; -.
DR EMBL: Y12863; E1252270; -.
DR PROSITE: PS00249; PDGF. 1.
SQ SEQUENCE 354 AA; 40444 MW; 310D8150 CRC32;

Query Match
Best Local Similarity 75.2%; Score 91; DB 4; Length 354;
Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

DB 134 PSCVTVORCGGCC 146
QY 69 PSCVTVORCGGCC 81

RESULT 14
ID P97946; PRELIMINARY; PRT; 358 AA.
AC P97946;
DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)

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DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR D (C-FOS INDUCED GROWTH FACTOR).
GN VEGF-D OR FIGF.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA.
RN EUTHERIA; RODENTIA.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-C57BL/6J.
RA ORDANDINI M., MARCONCINI L., FERRUZZI R., OLIVIERO S.;
RL PROC. NATL. ACAD. SCI. U.S.A. 93:11675-11675(1996).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE-LUNG.
RX MEDLINE: 97349118.
RA YAMADA Y., NEZU J., SHIMANE M., HIRATA Y.;
RL GENOMICS 42:483-488(1997).
DR EMBL: X89572; E283242; -.
DR MGD: D89628; D1014701; -.
DR PROSITE: PS00249; PDGF. 1.
DR PFAM: PF00341; PDGF.
SQ SEQUENCE 358 AA; 40908 MW; 64EB4E9 CRC32;

Query Match
Best Local Similarity 75.28; Score 91; DB 11; Length 358;
Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

DB 139 PSCVWFRGCGCC 151
QY 69 PSCVTWORCGGCC 81

RESULT 15
ID 070123; PRELIMINARY; PRT; 141 AA.
AC 070123;
DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE VEGF15.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA.
RN EUTHERIA; RODENTIA.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-ICR.
RX MEDLINE: 95101726.
RA SUGIHARA T., KAUL S.C., MITSUI Y., MADHWA R.;
RL BIOCHIM. BIOPHYS. ACTA 1224:365-370(1994).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-ICR.
RX MEDLINE: 98112857.
RA SUGIHARA T., MADHWA R., KAUL S.C., MITSUI Y.;
RL J. BIOL. CHEM. 273:3033-3038(1998).
DR EMBL: U50279; G2951983; -.
DR PROSITE: PS00249; PDGF. 1.
SQ SEQUENCE 141 AA; 15550 MW; 774CB7D2 CRC32;

Query Match
Best Local Similarity 71.98; Score 87; DB 11; Length 141;
Matches 9; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

DB 74 PSCVPLMRGAGCC 86
QY 69 PSCVTWORCGGCC 81

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Search completed: Thu Nov 26 00:02:49 1998  
 Job time : 52 secs.

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Mpsrch_pp  protein - protein database search, using Smith-Waterman algorithm
Run on:      Thu Nov 26 00:01:31 1998;      MasPar time 2.31 Seconds
Tabular output not generated.      151.826 Million cell updates/sec

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Title: >US-09-033-662-2  
Description: (69-82) from US09033662.pep  
Perfect Score: 121  
Sequence: 1 PSCVTVQRCGGCCP 14

Scoring table: PAM 150  
Gap 11

Searched: 69111 seqs, 25083644 residues

Post-processing: Minimum Match 08

Database: swiss-prot35

Statistics: Mean 24.744; Variance 39.426; scale 0.628

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description	Pred. No.
1	121	100.0	188	1	VEGB_HUMAN	VASCULAR ENDOTHELIAL G	5.15e-13
2	121	100.0	188	1	VEGB_MOUSE	VASCULAR ENDOTHELIAL G	5.15e-13
3	97	80.2	225	1	PDGB_RAT	PLATELET-DERIVED GROWTH	7.65e-08
4	97	80.2	226	1	TSIS_SSNAF	PDGF-RELATED TRANSFORM	7.65e-08
5	97	80.2	241	1	PDGB_SHEEP	PLATELET-DERIVED GROWTH	7.65e-08
6	97	80.2	241	1	PDGB_HUMAN	PLATELET-DERIVED GROWTH	7.65e-08
7	97	80.2	241	1	PDGB_MOUSE	PLATELET-DERIVED GROWTH	7.65e-08
8	95	78.5	133	1	VEGB_FELCA	VASCULAR ENDOTHELIAL G	2.00e-07
9	95	78.5	133	1	VEGB_OREN7	VASCULAR ENDOTHELIAL G	2.00e-07
10	95	78.5	148	1	VEGB_OREN7	VASCULAR ENDOTHELIAL G	3.22e-07
11	94	77.7	419	1	VEGB_HUMAN	VASCULAR ENDOTHELIAL G	5.18e-07
12	93	76.9	146	1	VEGB_SHEEP	VASCULAR ENDOTHELIAL G	5.18e-07
13	93	76.9	164	1	VEGB_CAVPO	VASCULAR ENDOTHELIAL G	5.18e-07
14	93	76.9	190	1	VEGB_PIG	VASCULAR ENDOTHELIAL G	5.18e-07
15	93	76.9	190	1	VEGB_BOVIN	VASCULAR ENDOTHELIAL G	5.18e-07
16	93	76.9	215	1	VEGB_HUMAN	VASCULAR ENDOTHELIAL G	5.18e-07
17	88	72.7	204	1	PDGB_RAT	PLATELET-DERIVED GROWTH	5.44e-06
18	88	72.7	211	1	PDGB_MOUSE	PLATELET-DERIVED GROWTH	5.44e-06
19	88	72.7	211	1	PDGB_HUMAN	PLATELET-DERIVED GROWTH	5.44e-06
20	88	72.7	213	1	PDGB_RABIT	PLATELET-DERIVED GROWTH	5.44e-06
21	88	72.7	226	1	PDGB_XENLA	PLATELET-DERIVED GROWTH	5.44e-06
22	87	71.9	128	1	VEGB_COTJA	VASCULAR ENDOTHELIAL G	8.67e-06
23	87	71.9	190	1	VEGB_RAT	VASCULAR ENDOTHELIAL G	8.67e-06

24	87	71.9	214	1	VEGF_MOUSE	VASCULAR ENDOTHELIAL G	8.67e-06
25	86	71.1	170	1	PLGF_HUMAN	PLACENTA GROWTH FACTOR	1.38e-05
26	84	69.4	158	1	PLGF_MOUSE	PLACENTA GROWTH FACTOR	3.46e-05
27	63	55.1	131	1	CHHC_BOVMO	CHORION GLASS HIGH-CVS	3.78e-01
28	62	55.2	178	1	CHHC_BOVMO	CHORION GLASS HIGH-CVS	4.18e-01
29	61	50.4	438	1	YGCA_HA1IN	HYPOPHRETTICAL RNA METHY	7.10e-01
30	58	47.9	793	1	DCMA_ME1SO	CARBON MONOXIDE DEHYDR	2.31e+00
31	57	47.1	119	1	CHAI_AM1PO	CHORION CLASS A PROTEI	3.35e+00
32	57	47.1	121	1	FERY_AC1CA	POTATIVE FERREDOXIN.	3.39e+00
33	57	47.1	403	1	KLM2_SHEEP	KEPATIN, TYPE I MICRON	3.39e+00
34	57	47.1	1353	1	WGL2_CVMO	E2 GLYCOPROTEIN PRECUR	3.39e+00
35	57	47.1	1363	1	WGL2_CVME	E2 GLYCOPROTEIN PRECUR	3.39e+00
36	57	47.1	1363	1	WGL2_CVLY	E2 GLYCOPROTEIN PRECUR	3.39e+00
37	56	46.3	197	1	MCS_MOUSE	SPERM MITOCHONDRIAL CA	4.97e+00
38	56	46.3	373	1	P2UR_MOUSE	P2U PURINOCEPTOR 1 (AT	4.97e+00
39	56	46.3	374	1	P2UR_HAT	P2U PURINOCEPTOR 1 (AT	4.97e+00
40	56	46.3	377	1	P2UR_HUMAN	P2U PURINOCEPTOR 1 (AT	4.97e+00
41	56	46.3	1190	1	EH01_HUVAN	EPILEPSY HOLOPROSENCEP	4.97e+00
42	55	45.5	80	1	PANC_S1YAN	PHOTOSYSTEM I IRON-SUL	7.24e+00
43	55	45.5	153	1	Y64_ME1TA	HYPOPHRETTICAL PROTEIN M	7.24e+00
44	55	45.5	557	1	IGEB_MOUSE	ICE-BINDING PROTEIN.	7.24e+00
45	55	45.5	777	1	UNC8_CABEL	DESENERIN UNC-8.	7.24e+00

## ALIGNMENTS

RESULT	1	STANDARD	PRT	188 AA.
ID	VEGF_HUMAN			
AC	P49765			
DT	01-OCT-1996 (REL. 34, CREATED)			
DT	01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)			
DT	01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)			
DE	VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VEGF RELATIVITY FACTOR).			
DE	VEGFB OR VRF.			
OS	HOMO SAPIENS (HUMAN).			
OC	EUMAROTIA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;			
OC	EUTHERIA; PRIMATES.			
FN	(1)			
RP	SEQUENCE FROM N.A.			
FX	MEDLINE: 96197355.			
RA	OLOFSSON B., PAUSOLA K., KAIPIAINEN A., VON EULER G., JOUKOV V.,			
RA	SASELA O., OREANA A., PETTERSSON R.F., ALLIALO K., ERIKSSON U.,			
RL	PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).			
RL	[2]			
RP	SEQUENCE FROM N.A.			
RA	GRIMMOND S., LAGERBRANTZ J., DRINKWATER C., SILINS G., TOWNSON S.,			
RA	POLLOCK P., GOTLEY D., CARSON E., RAKAR S., NORDENSKJOLD M.,			
RA	WARD L., HAYWARD N., WEBER G.;			
RL	GENOME RES. 6:112-129(1996).			
CC	-1- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.			
CC	-1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER WITH VEGF.			
CC	-1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.			
CC	-1- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.			
CC	HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.			
CC	-1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.			
DR	EMBL: U48801, G1234823; -			
DR	EMBL: U43369; G1216398; -			
DR	MM: 601398; -			
DR	PROSITE: PS00249; PDGF; 1.			
DR	MITOGEN; GROWTH FACTOR; SIGNAL; HEPARIN-BINDING.			
KW	SIGNAL	1	21	POTENTIAL.
FT	CHAIN	22	188	VASCULAR ENDOTHELIAL GROWTH FACTOR B.
FT	CHAIN	188 AA;	21261 MW;	35EA8904 CRC32;
SQ	SEQUENCE	188 AA;	21261 MW;	35EA8904 CRC32;
Query Match	100.0%	Score 121;	DB 1;	Length 188;
Best Local Similarity	100.0%;	Pred. No. 5.15e-13;		
Matches 14;	Conservative	0;	Mismatches	0;
			Indels	0;
			Gaps	0;
db	70	PSCVYVDRGCGCCP	83	

OY 69 PSCVTVQRCGCCP 82

RESULT 2  
ID VEGF\_MOUSE STANDARD; PRT: 188 AA.  
AC P49766;  
DT 01-OCT-1996 (REL. 34, CREATED)  
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)  
DE VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR  
DE ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRF).  
GN VEGF OR VRF.  
OS MUS MUSCULUS (MOUSE)  
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
OC EUTHERIA; RODENTIA.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=HEART;  
RX MEDLINE: 96197355  
RA OLOESSON B., PAJUSOLA K., KAIPIAINEN A., VON EULER G., JOUKOV V.,  
RA SAKSELA O., ORPANA A., PETERSSON R.F., ALITALO K., ERIKSSON U.,  
RL PROC. NATL. ACAD. SCI. U.S.A. 93:2576-2581(1996).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE=BRAIN;  
RX MEDLINE: 96183052  
RA TOWNSON S., LAGERCRANTZ J., GRIMMOND S., SILINS G.,  
RA NORRENSKJOLD M., WEBER G., HAYWARD N.K.;  
RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:922-928(1996).  
CC -1- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.  
CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER  
CC WITH VEGF.  
CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR  
CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.  
CC -1- TISSUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, KIDNEY  
CC AND SKELETAL MUSCLE.  
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
DR EMBL: U48800; G1234825; -;  
DR EMBL: U43857; G1314336; -;  
DR MGD: MGI:106199; VRF.  
DR PROSITE: PS00249; PDGF: 1.  
KW MITOGEN; GROWTH FACTOR; SIGNAL; HEPARIN-BINDING.  
FT SIGNAL  
FT CHAIN 1 21 POTENTIAL.  
FT SEQUENCE 188 AA; 21442 MW; 7999A3C8 CRC32;  
SQ

Query Match 100.0%; Score 121; DB 1; Length 188;  
Best Local Similarity 100.0%; Pred. No. 5.15e-13;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 70 PSCVTVQRCGCCP 83  
OY 69 PSCVTVQRCGCCP 82

RESULT 3  
ID PDGF\_RAT STANDARD; PRT: 225 AA.  
AC Q05028;  
DT 01-FEB-1994 (REL. 28, CREATED)  
DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)  
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
DE PLATELET-DERIVED GROWTH FACTOR, B CHAIN PRECURSOR (PDGF B-CHAIN)  
DE (PDGF-2) (FRAGMENT).  
GN PDGFB.  
OS RATRUS NORVEGICUS (RAT)  
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
OC EUTHERIA; RODENTIA.  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE: 93305723  
RA HERREN B., MEYER K.A., ROUGE M., LOETSCHER P., PECH M.;  
RL BIOCHIM. BIOPHYS. ACTA 1173:294-302(1993).  
RN [2]  
SQ

RP SEQUENCE OF 74-182 FROM N.A.  
RC STRAIN-SPRAGUE-DAWLEY; TISSUE-SMOOTH MUSCLE;  
RX MEDLINE: 95277908  
RA LINDNER V., GIACHELLI C.M., SCHWARTZ S.M., REIDY M.A.;  
RL CIRC. RES. 76:951-957(1995).  
CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
CC MAY HAVE A CHEMOTACTIC ROLE IN INITIAL THICKENING.  
CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
CC TRANSFORMATION PROCESSES.  
CC -1- TISSUE SPECIFICITY: EXPRESSED IN A DISTINCT SUBPOPULATION  
CC OF SMOOTH MUSCLE CELLS IN INJURED ARTERIES.  
CC -1- A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE PDGF RECEPTOR.  
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
DR EMBL: 214117; G56868; -;  
DR EMBL: L40991; G727178; -;  
DR PIR: S25097; S25097.  
DR HSSP: P01127; 1PDG.  
DR PROSITE: PS00249; PDGF: 1.  
KW MITOGEN; GROWTH FACTOR; PROTO-ONCOGENE; PLATELET; SIGNAL.  
FT NON\_TER 1 1  
FT SIGNAL <1 12  
FT PROPEP 13 73  
FT CHAIN 74 182  
FT PROPEP 183 225  
FT SITE 100 100  
FT SITE 103 103  
FT DISULFID 89 133  
FT DISULFID 122 170  
FT DISULFID 126 172  
FT DISULFID 116 116  
FT DISULFID 125 125  
FT CARBOHYD 55 55  
FT NON\_TER 225 225  
SQ SEQUENCE 225 AA; 25603 MW; CC1B043F CRC32;

Query Match 80.2%; Score 97; DB 1; Length 225;  
Best Local Similarity 76.9%; Pred. No. 7.65e-08;  
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

DB 114 PSCVTVQRCGCCP 126  
OY 69 PSCVTVQRCGCCP 81

RESULT 4  
ID TSIS\_SMSAV STANDARD; PRT: 226 AA.  
AC P01128;  
DT 21-JUL-1986 (REL. 01, CREATED)  
DT 21-JUL-1986 (REL. 01, LAST SEQUENCE UPDATE)  
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
DE PDGF-RELATED TRANSFORMING PROTEIN P28-SIS.  
DE V-SIS.  
GN SIMIAN SARCOMA VIRUS.  
OS VIRIDAE; SS-RNA ENVELOPED VIRUSES; POSITIVE-STRAND; RETROVIRIDAE;  
OC ONCOVIRINAE.  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE: 83144004  
RA DEYARE S.G., REDDY E.P., LAW J.D., ROBBINS K.C., AARONSON S.A.;  
RL PROC. NATL. ACAD. SCI. U.S.A. 80:731-735(1983).  
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
DR EMBL: V01201; G61777; ALT\_INT.  
DR PIR: A01381; TWMVS.  
DR HSSP: P01127; 1PDG.  
DR PROSITE: PS00249; PDGF: 1.  
KW TRANSFORMING PROTEIN; ONCOGENE; GROWTH FACTOR.  
SQ SEQUENCE 226 AA; 25411 MW; DD3C74C1 CRC32;



Page 3

CC EUTHERIA; PRIMATES.  
RN RP  
RX MEDLINE; 84250225.  
RA JOSEPHS S.F., RAINER L., CLARKE M.F., WESTIN E.H., REITZ M.S.,  
RA WONG-STAL F.;  
RL SCIENCE 225:636-639(1984).  
RN RP  
RX MEDLINE; 86205961.  
RA RAO C.D., IGARASHI H., CHIU I.-M., ROBBINS K.C., AARONSON S.A.;  
RL PROC. NATL. ACADE. SCI. U.S.A. 83:2392-2396(1986).  
RN RP  
RX MEDLINE; 84205633.  
RA CHIU I.-M., REDDY E.P., GIOVL D., ROBBINS K.C., TRONICK S.R.,  
RA AARONSON S.A.;  
RL CELL 37:123-129(1984).  
RN RP  
RX MEDLINE; 85296313.  
RA COLLINS T., GINSBURG D., BOSS J.M., ORKIN S.H., POBER J.S.;  
RL NATURE 316:748-750(1985).  
RN RP  
RX MEDLINE; 85269623.  
RA RAINER L., JOSEPHS S.F., JARRETT R., REITZ M.S., WONG-STAL F.;  
RL NUCLEIC ACIDS RES. 13:5007-5018(1985).  
RN RP  
RX MEDLINE; 87217119.  
RA RAO C.D., IGARASHI H., PECH M.W., ROBBINS K.C., AARONSON S.A.;  
RL COLD SPRING HARB. SYMP. QUANT. BIOL. 51:959-966(1986).  
RN RP  
RX MEDLINE; 83197379.  
RA ANTONIADES H.N., HUNKAPILLER M.W.;  
RL SCIENCE 220:963-965(1983).  
RN RP  
RX MEDLINE; 82-110.  
RA SEQUENCE OF 82-110.  
RN RP  
RX MEDLINE; 83244981.  
RA WATERFIELD M.D., SCRACE G.T., WHITTLE N., STROOBANT P., JOHNSON A.,  
RA MATESON A., WESTERMARK B., HELDIN C.H., HUANG J.S., DEUEL T.F.;  
RL NATURE 304:35-39(1983).  
RN RP  
RX MEDLINE; 92097530.  
RA CLEMETS J.M., BARDEN L.J., BLOXIDGE R.E., CATLIN G., COOK A.L.,  
RA CRAIG S., DUDMOND A.H., EDWARDS R.M., FALLON A., GREEN D.R.,  
RA HELLEWELL P.G., KIRWIN P.M., NAYE P.D., RICHARDSON S.J., BROWN D.,  
RA CHAHMALA S.B., SNAREY M., WINSLOW D.;  
RL EMBO J. 10:4113-4120(1991).  
RN RP  
RX MEDLINE; 92283833.  
RA ANDERSSON M., OESTMAN A., BAECCKROEM G., HELLMAN U.,  
RA GEORGE-NAKCIEMENTO C., WESTERMARK B., HELDIN C.-H.;  
RL J. BIOL. CHEM. 267:11260-11266(1992).  
RN RP  
RX MEDLINE; 93010987.  
RA X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).  
RN RP  
RX MEDLINE; 93010987.  
RA OEFNER C., D'ARCY A., WINKLER F.K., EGGIMANN B., HOANG M.;  
RL EMBO J. 11:3921-3926(1992).  
CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR

CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
 CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
 CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
 CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
 CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
 CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
 CC TRANSFORMATION PROCESSES.  
 CC -1- A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE PDGF RECEPTOR.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 CC -1- DATABASE: NAME-RED Systems' cytokine source book;  
 CC WWW="http://www.indsystems.com/cyt\_cat/pdgm.html".  
 DR EMBL; K01401; G338209; JOINED.  
 DR EMBL; K01918; G338209; JOINED.  
 DR EMBL; J00121; G338209; JOINED.  
 DR EMBL; K01398; G338209; JOINED.  
 DR EMBL; K01399; G338209; JOINED.  
 DR EMBL; K01400; G338209; JOINED.  
 DR EMBL; X02811; G338211; JOINED.  
 DR EMBL; M12783; G338211; JOINED.  
 DR EMBL; X02744; G30247; JOINED.  
 DR EMBL; K01917; G338199; JOINED.  
 DR EMBL; K01913; G338199; JOINED.  
 DR EMBL; K01914; G338199; JOINED.  
 DR EMBL; K01915; G338199; JOINED.  
 DR EMBL; K01916; G338199; JOINED.  
 DR EMBL; X03702; G33757; JOINED.  
 DR EMBL; 281010; E275137; JOINED.  
 DR PIR; A94276; PFMUG2.  
 DR PDB; 1PDG; 31-JAN-94.  
 DR MIM; 190040.  
 DR PROSITE; PS00249; PDGF; 1.  
 KW MITOGEN; GROWTH FACTOR; PROTO-ONCOGENE; PLATELET; SIGNAL;  
 3D-STRUCTURE.  
 FT SIGNAL 1 20  
 FT PROPEP 21 81  
 FT CHAIN 82 190  
 FT SITE 191 241  
 FT SITE 108 108  
 FT SITE 111 111  
 FT DISULFID 97 141  
 FT DISULFID 130 178  
 FT DISULFID 134 180  
 FT DISULFID 124 124  
 FT DISULFID 133 133  
 FT CONFLICT 21 21  
 FT CONFLICT 101 101  
 FT CONFLICT 105 105  
 FT CONFLICT 107 107  
 FT STRAND 90 91  
 FT STRAND 94 94  
 FT STRAND 98 103  
 FT STRAND 120 121  
 FT STRAND 124 131  
 FT STRAND 137 138  
 FT STRAND 139 143  
 FT STRAND 146 159  
 FT STRAND 160 161  
 FT STRAND 162 175  
 FT STRAND 178 182  
 SQ SEQUENCE 241 AA; 27283 MM; 9C58E415 CRC32;  
 Query Match 80.2%; Score 97; DB 1; Length 241;  
 Best Local Similarity 76.9%; Pred. No. 7.65e-08;  
 Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

DT 01-JUL-1993 (REL. 26, CREATED)  
 DT 01-JUL-1993 (REL. 26, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE PLATELET-DERIVED GROWTH FACTOR, B CHAIN PRECURSOR (PDGF B-CHAIN)  
 DE (PDGF-2).  
 GN PDGF OR C-SIS.  
 OS MUS MUSCULUS (MOUSE).  
 OC EURARCTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 CC EUTHERIA; RODENTIA.  
 RN [1]  
 RX MEDLINE; 91257844.  
 RA BONTHEON D.T., SULTAN P., COLLINS T.;  
 RL GENOMICS 10:287-292(1991).  
 CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
 CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
 CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
 CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
 CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
 CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
 CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
 CC TRANSFORMATION PROCESSES.  
 CC -1- A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE PDGF RECEPTOR.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL; M84453; G342573; JOINED.  
 DR EMBL; M84448; G342573; JOINED.  
 DR EMBL; M84449; G342573; JOINED.  
 DR EMBL; M84450; G342573; JOINED.  
 DR EMBL; M84451; G342573; JOINED.  
 DR EMBL; M84452; G342573; JOINED.  
 DR EMBL; M84849; G192820; JOINED.  
 DR EMBL; M64844; G192820; JOINED.  
 DR EMBL; M64845; G192820; JOINED.  
 DR EMBL; M64846; G192820; JOINED.  
 DR EMBL; M64847; G192820; JOINED.  
 DR EMBL; M64848; G192820; JOINED.  
 DR PIR; A39073; PFMUGB.  
 DR HSSP; P01127; 1PDG.  
 DR MGD; MGI:97528; PDGFB.  
 DR PROSITE; PS00249; PDGF; 1.  
 KW MITOGEN; GROWTH FACTOR; PROTO-ONCOGENE; PLATELET; SIGNAL;  
 3D-STRUCTURE.  
 FT SIGNAL 1 20  
 FT PROPEP 21 81  
 FT CHAIN 82 190  
 FT PROPEP 191 241  
 FT SITE 108 108  
 FT SITE 111 111  
 FT DISULFID 97 141  
 FT DISULFID 130 178  
 FT DISULFID 134 180  
 FT DISULFID 124 124  
 FT DISULFID 133 133  
 FT CARBOHYD 63 63  
 SQ SEQUENCE 241 AA; 27381 MM; FE69FB08 CRC32;  
 Query Match 80.2%; Score 97; DB 1; Length 241;  
 Best Local Similarity 76.9%; Pred. No. 7.65e-08;  
 Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

DB 122 PCVTVORCGGCC 134  
 ID 122 PCVTVORCGGCC 134  
 AC P12919;  
 DT 01-OCT-1989 (REL. 12, CREATED)  
 DT 01-OCT-1989 (REL. 12, LAST SEQUENCE UPDATE)  
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)  
 DE PLATELET-DERIVED GROWTH FACTOR, B CHAIN PRECURSOR (PDGF B-CHAIN)  
 DE (PDGFB) (PDGF-2).  
 GN PDGFB OR C-SIS.

OS FELIS SILVESTRIS CATUS (CAT).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUTHERIA; CARNIVORA.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE: 87146463.  
 RA VAN DEN OUMELAND A.M.W., VAN GRONINGEN J.J.M., SCHALKEN J.A.,  
 RA VAN NECK H.W., BLOEMERS H.P.J., VAN DE VEN W.J.M.,  
 RL NUCLEIC ACIDS RES. 15:959-970(1987).  
 RN [2]  
 RP REVISIONS.  
 RA VAN DEN OUMELAND A.M.W.;  
 RL SUBMITTED (NOV-1996) TO EMBL/GENBANK/DBJ DATA BANKS.  
 CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
 CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
 CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
 CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
 CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
 CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
 CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
 CC TRANSFORMATION PROCESSES.  
 CC -1- A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE PDGF RECEPTOR.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: X05112; E281569; ALT\_SEQ.  
 DR PIR: A26402; TVCTSS.  
 DR HSSP: P01127; 1PDG.  
 DR PROSITE: PS00249; PDGF: 1.  
 KM MITOGEN: GROWTH FACTOR: PROTO-ONCOGENE; PLATELET; SIGNAL.  
 FT SIGNAL 1 20  
 FT PROPEP 21 81  
 FT CHAIN 82 194  
 FT PROPEP 195 245  
 FT DISULFID 101 145  
 FT DISULFID 134 182  
 FT DISULFID 138 184  
 FT DISULFID 128 128  
 FT DISULFID 137 137  
 SQ SEQUENCE 245 AA: 27787 MW: AF5645D8 CRC32:  
 Query Match 80.2%; Score 97; DB 1; Length 245;  
 Best Local Similarity 76.9%; Pred. No. 7.65e-08;  
 Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;  
 Db 126 PCVEYVRCGCGC 138  
 Qy 69 PSCVTYVRCGCGC 81  
 RESULT 9  
 ID VEGH\_OREN2 STANDARD: PRT: 133 AA.  
 AC P52584;  
 DT 01-OCT-1996 (REL. 34, CREATED)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.  
 GN A2R.  
 OS ORF VIRUS (STRAIN N27).  
 OC VIRIDAE; DS-DNA ENVELOPED VIRUSES; POXYVIRIDAE; CHORDOPOXYVIRINAE;  
 OC PARAPOXYVIRUSES.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE: 94076465.  
 RA LITTLE D.J., FRASER K.M., FLEMING S.B., MERCER A.A., ROBINSON A.J.;  
 RL J. VIROL. 68:84-92(1994).  
 CC -1- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: S67520; G456899; -  
 DR PROSITE: PS00249; PDGF: 1.  
 KM MITOGEN: GROWTH FACTOR; GLYCOPROTEIN; SIGNAL.  
 FT SIGNAL 1 133  
 FT CHAIN 7 78  
 FT DISULFID 36 78  
 BY SIMILARITY.

FT DISULFID 67 112  
 FT DISULFID 71 114  
 FT DISULFID 61 61  
 FT DISULFID 70 70  
 FT CARBOHYD 85 85  
 SQ SEQUENCE 133 AA: 14715 MW: E02EC395 CRC32:  
 Query Match 78.5%; Score 95; DB 1; Length 133;  
 Best Local Similarity 76.9%; Pred. No. 2.00e-07;  
 Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;  
 Db 59 PCVTLMRCGCGC 71  
 Qy 69 PSCVTYVRCGCGC 81  
 RESULT 10  
 ID VEGH\_OREN7 STANDARD: PRT: 148 AA.  
 AC P52585;  
 DT 01-OCT-1996 (REL. 34, CREATED)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.  
 GN A2R.  
 OS ORF VIRUS (STRAIN N27).  
 OC VIRIDAE; DS-DNA ENVELOPED VIRUSES; POXYVIRIDAE; CHORDOPOXYVIRINAE;  
 OC PARAPOXYVIRUSES.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE: 94076465.  
 RA LITTLE D.J., FRASER K.M., FLEMING S.B., MERCER A.A., ROBINSON A.J.;  
 RL J. VIROL. 68:84-92(1994).  
 CC -1- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: S67522; G456902; -  
 DR PROSITE: PS00249; PDGF: FALSE\_NEG.  
 KM MITOGEN: GROWTH FACTOR; GLYCOPROTEIN; SIGNAL.  
 FT SIGNAL 1 148  
 FT CHAIN 2 148  
 FT DISULFID 46 88  
 FT DISULFID 77 130  
 FT DISULFID 81 132  
 FT DISULFID 71 71  
 FT DISULFID 80 80  
 FT CARBOHYD 95 95  
 SQ SEQUENCE 148 AA: 16078 MW: E6B453C5 CRC32:  
 Query Match 78.5%; Score 95; DB 1; Length 148;  
 Best Local Similarity 76.9%; Pred. No. 2.00e-07;  
 Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 Db 69 PCVTYVRCGCGC 81  
 Qy 69 PSCVTYVRCGCGC 81  
 RESULT 11  
 ID VEGC\_HUMAN STANDARD: PRT: 419 AA.  
 AC P49767;  
 DT 01-OCT-1996 (REL. 34, CREATED)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (VASCULAR  
 DE ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRP) (FLT4 LIGAND).  
 GN VEGF.  
 OS HOMO SAPIENS (HUMAN).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 OC EUTHERIA; PRIMATES.  
 RN [1]  
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 103-120.  
 RA MEDLINE: 96178224.  
 RX JOUKOV V., PAJUSOLA K., KAIRAINEN A., CHILOV D., LAHTINEN I.,

RA KUKK E., SAKSELA O., KALKKINEN N., ALLTALO K.;  
 RL EMO J. 15:290-298(1996).  
 [2]  
 RN ERRATUM.  
 RX MEDLINE: 96203094.  
 RA JOUKOV V., PAUSOLA K., KAIRAINEN A., CHLOV D., LAHTINEN I.,  
 RA KUKK E., SAKSELA O., KALKKINEN N., ALLTALO K.;  
 RL EMO J. 15:1751-1751(1996).  
 [3]  
 RN SEQUENCE FROM N.A.  
 RA LEE J., GRAY A., YUAN J., LUOH S.M., AVRAHAM H., WOOD W.I.;  
 RL SUBMITTED (JAN-1996) TO EMBL/GENBANK/DBJ DATA BANKS.  
 [4]  
 RN SEQUENCE FROM N.A.  
 RA FITZ L., MORRIS J.C., TOWLER P.S., LONG A.J., GRECO R.,  
 RA BURGESS P., GIANNOTTI J., CIARLETTA A., HENNESSEY D., KOVACIC S.,  
 RA FITZGERALD M., SCALFRETO H., WEICH N., NEBEN S., FINNERTY H.,  
 RA ZOLLNER R., WANG J., NICKBARG E., GASSANAY R., TURNER K.,  
 RA WOOD C.R.;  
 RL SUBMITTED (JUN-1996) TO EMBL/GENBANK/DBJ DATA BANKS.  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL  
 CELL GROWTH.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- PTM: PROBABLY PROTEOLITICALLY PROCESSED IN THE C-TERMINUS.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: X94216; E221096; -;  
 DR EMBL: U43142; G1150989; -;  
 DR EMBL: U58111; G1373427; -;  
 DR PROSITE: PS00249; PDGF: 1.  
 KM MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; SIGNAL; REPEAT.  
 FT SIGNAL 1 ?  
 FT PROPEP 102 ?  
 FT CHAIN 103 419  
 FT DOMAIN 275 365  
 FT REPEAT 275 298  
 FT REPEAT 299 322  
 FT REPEAT 323 346  
 FT REPEAT 347 365  
 FT CARBOHYD 175 175  
 FT CARBOHYD 205 205  
 FT CARBOHYD 240 240  
 FT SEQUENCE 419 AA: 46883 MW; 2C7B2BC4 CRC32;  
 SO  
 Query Match 77.7%; Score 94; DB 1; Length 419;  
 Best Local Similarity 76.9%; Pred. No. 3.22e-07;  
 Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;  
 Db 154 PSCVYVRCGGCC 166  
 Oy 69 PSCVYVRCGGCC 81  
 RESULT 12  
 ID VEGF-SHEEP STANDARD; PRT: 146 AA.  
 AC P50412;  
 DT 01-OCT-1996 (REL. 34, CREATED)  
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)  
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR  
 DE PERMEABILITY FACTOR) (VPF).  
 GN VEGF.  
 OS OVIS ARIES (SHEEP).  
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 CC EUTHERIA; ARTIODACTYLA.  
 RN [1]  
 RN SEQUENCE FROM N.A.  
 RP TISSUE-KIDNEY;  
 RX MEDLINE: 97117958.  
 RA REDMER D.A., DAI Y., LI J., CHARNOCK-JONES D.S., SMITH S.K.,  
 RA REYNOLDS L.P., MOOR R.M.;  
 RL J. REPROD. FERTIL. 108:157-165(1996).  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL  
 CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR

CC PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR  
 CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY  
 CC SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: X89506; G89351; -;  
 DR PROSITE: PS00249; PDGF: 1.  
 KM MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; SIGNAL.  
 FT SIGNAL 1 26  
 FT CHAIN 27 146  
 FT DISULFID 51 93  
 FT DISULFID 82 127  
 FT DISULFID 86 129  
 FT DISULFID 76 76  
 FT DISULFID 85 85  
 FT CARBOHYD 100 100  
 FT SEQUENCE 146 AA: 17247 MW; 4EBB20AE CRC32;  
 SO  
 Query Match 76.9%; Score 93; DB 1; Length 146;  
 Best Local Similarity 76.9%; Pred. No. 5.18e-07;  
 Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 Db 74 PSCVPIARCAGCC 86  
 Oy 69 PSCVYVRCGGCC 81  
 RESULT 13  
 ID VEGF-CAVPO STANDARD; PRT: 164 AA.  
 AC P26617;  
 DT 01-AUG-1992 (REL. 23, CREATED)  
 DT 01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY  
 DE FACTOR) (VPF).  
 GN VEGF.  
 OS CAVIA PORCELLUS (GUINEA PIG).  
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA;  
 CC EUTHERIA; RODENTIA.  
 RN [1]  
 RN SEQUENCE FROM N.A.  
 RP BENSE B.;  
 RL SUBMITTED (XXX-1992) TO EMBL/GENBANK/DBJ DATA BANKS.  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL  
 CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR  
 CC PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR  
 CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY  
 CC SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: M84230; G191307; -;  
 DR PROSITE: PS00249; PDGF: 1.  
 KM MITOGEN; GROWTH FACTOR; GLYCOPROTEIN.  
 FT DISULFID 25 67  
 FT DISULFID 56 101  
 FT DISULFID 60 103  
 FT DISULFID 50 50  
 FT DISULFID 59 59  
 FT DISULFID 74 74  
 FT CARBOHYD 74 74  
 FT SEQUENCE 164 AA: 19330 MW; AEBBDF3 CRC32;  
 SO  
 Query Match 76.9%; Score 93; DB 1; Length 164;  
 Best Local Similarity 76.9%; Pred. No. 5.18e-07;  
 Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 Db 48 PSCVPIARCAGCC 60  
 Oy 69 PSCVYVRCGGCC 81  
 RESULT 14

ID VEGF-PIG STANDARD: PRT: 190 AA.  
 AC P49151;  
 DT 01-FEB-1996 (REL. 33, CREATED)  
 DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).  
 GN VEGF.  
 OS SUS SCROFA (PIG).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA; EUTHERIA; ARTIODACTYLA.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-HEART;  
 RX MEDLINE: 95143284.  
 RA SHARMA H.S., TANG Z.H., GHO B.C.H., VERDOUM P.D.:  
 RL BIOCHIM. BIOPHYS. ACTA 1260:235-238(1995).  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY (BY SIMILARITY).  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: X81380; G587560; -  
 DR PROSITE: PS00249; PDGF: 1.  
 KW MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; SIGNAL.  
 FT SIGNAL 1 26  
 FT CHAIN 27 190  
 FT DISULFID 51 93  
 FT DISULFID 82 127  
 FT DISULFID 86 129  
 FT DISULFID 76 76  
 FT DISULFID 85 85  
 FT CARBOHYD 100 100  
 SQ SEQUENCE 190 AA; 22368 MW; BA8CC907 CRC32;

Query Match 76.9%; Score 93; DB 1; Length 190;  
 Best Local Similarity 76.9%; Pred. No. 5.18e-07;  
 Matches 10; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 74 PSCVPLMRCGCC 86  
 QY 69 PSCVTQRCGCC 81

RA FERRARA N., HENZEL W.J.:  
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 161:851-858(1989).  
 CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 DR EMBL: M32976; G163007; -  
 DR EMBL: M31836; G163809; -  
 DR EMBL: M33750; G163811; -  
 DR PIR: A33255; A33255.  
 DR PIR: A33787; A33787.  
 DR PIR: B40080; B40080.  
 DR PROSITE: PS00249; PDGF: 1.  
 KW MITOGEN; GROWTH FACTOR; GLYCOPROTEIN; ALTERNATIVE SPLICING; SIGNAL.  
 FT SIGNAL 1 26  
 FT CHAIN 27 190  
 FT DISULFID 51 93  
 FT DISULFID 82 127  
 FT DISULFID 86 129  
 FT DISULFID 76 76  
 FT DISULFID 85 85  
 FT CARBOHYD 100 100  
 FT VARSPLIC 139 183  
 FT VARSPLIC 184 184  
 SQ SEQUENCE 190 AA; 22310 MW; E22F67FD CRC32;

Search completed: Thu Nov 26 00:01:39 1998  
 Job time : 8 secs.

Db 74 PSCVPLMRCGCC 86  
 QY 69 PSCVTQRCGCC 81

RESULT 15  
 ID VEGF\_BOVIN STANDARD: PRT: 190 AA.  
 AC P15691;  
 DT 01-APR-1990 (REL. 14, CREATED)  
 DT 01-APR-1990 (REL. 14, LAST SEQUENCE UPDATE)  
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).  
 GN VEGF.  
 OS BOS TAURUS (BOVINE).  
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; TETRAPODA; MAMMALIA; EUTHERIA; ARTIODACTYLA.  
 RN [1]  
 RP SEQUENCE FROM N.A.; AND SEQUENCE OF 27-47.  
 RX MEDLINE: 90069608.  
 RA LEUNG D.W., CACHIANES G., KUANG W.-J., GOEDDEL D.V., FERRARA N.:  
 RL SCIENCE 246:1306-1309(1989).  
 RN [2]  
 RP SEQUENCE OF 27-190 FROM N.A.  
 RX MEDLINE: 90121225.  
 RA TISCHER E., GOSPODAROWICZ D., MITCHELL R., SILVA M., SCHILLING J., LAU K., CRISP T., FIDDES J.C., ABRAHAM J.A.:  
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 165:1198-1206(1989).  
 RN [3]  
 RP SEQUENCE OF 27-31.  
 RX MEDLINE: 89286596.

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MPsrch.p protein - protein database search, using Smith-Waterman algorithm  
Run on: Thu Nov 26 00:00:38 1998; Maspar time 3.45 Seconds  
Tabular output not generated. 148.181 Million cell updates/sec

Title: >US-09-033-662-2  
Description: (69-82) from US09033662.pep  
Perfect Score: 121  
Sequence: 1 PSCVTVORCGCCP 14

Scoring table: PAM 150  
Gap 11

Searched: 120441 seqs, 36531193 residues

Post-processing: Minimum Match 0%  
Listing first 45 summaries

Database: p1r56  
1: p1r1 2: p1r2 3: p1r3 4: p1r4 5: n1r13d

Statistics: Mean 23.485; Variance 43.203; scale 0.544

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description	Pred. No.
1	121	100.0	188	2	JC4680	3.68e-11
2	121	100.0	207	2	JC4679	3.68e-11
3	97	80.2	63	5	1PDG82	1.33e-06
4	97	80.2	66	5	1PDG82	1.33e-06
5	97	80.2	66	5	1PDG82	1.33e-06
6	97	80.2	161	2	1S8108	1.33e-06
7	97	80.2	185	2	S58383	1.33e-06
8	97	80.2	225	2	S25097	1.33e-06
9	97	80.2	226	1	TVMVSS	1.33e-06
10	97	80.2	230	2	A55030	1.33e-06
11	97	80.2	241	1	PFHUG2	1.33e-06
12	97	80.2	241	1	PFHUG2	1.33e-06
13	97	80.2	245	1	TVC7TS	1.33e-06
14	97	80.2	271	2	A25669	1.33e-06
15	95	78.5	133	2	B49530	3.11e-06
16	95	78.5	148	2	D49530	3.11e-06
17	94	77.7	419	2	S69207	4.77e-06
18	93	76.9	120	2	A33787	7.23e-06
19	93	76.9	146	2	S57956	7.23e-06
20	93	76.9	190	2	S52130	7.23e-06
21	93	76.9	190	2	B40080	7.23e-06
22	93	76.9	232	2	A41551	7.23e-06
23	88	72.7	166	2	JN0248	5.81e-05

24	88	72.7	196	2	A37359	platelet-derived grow	5.81e-05
25 <td>88<td>72.7<td>196<td>2<td>B28964<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>196<td>2<td>B28964<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>196<td>2<td>B28964<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	196 <td>2<td>B28964<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	2 <td>B28964<td>platelet-derived grow<th>5.81e-05</th></td></td>	B28964 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
26 <td>88<td>72.7<td>196<td>2<td>A48651<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>196<td>2<td>A48651<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>196<td>2<td>A48651<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	196 <td>2<td>A48651<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	2 <td>A48651<td>platelet-derived grow<th>5.81e-05</th></td></td>	A48651 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
27 <td>88<td>72.7<td>197<td>2<td>S25095<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>197<td>2<td>S25095<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>197<td>2<td>S25095<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	197 <td>2<td>S25095<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	2 <td>S25095<td>platelet-derived grow<th>5.81e-05</th></td></td>	S25095 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
28 <td>88<td>72.7<td>198<td>2<td>JS0735<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>198<td>2<td>JS0735<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>198<td>2<td>JS0735<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	198 <td>2<td>JS0735<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	2 <td>JS0735<td>platelet-derived grow<th>5.81e-05</th></td></td>	JS0735 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
29 <td>88<td>72.7<td>200<td>2<td>IS1551<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>200<td>2<td>IS1551<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>200<td>2<td>IS1551<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	200 <td>2<td>IS1551<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	2 <td>IS1551<td>platelet-derived grow<th>5.81e-05</th></td></td>	IS1551 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
30 <td>88<td>72.7<td>211<td>1<td>PFHUG1<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>211<td>1<td>PFHUG1<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>211<td>1<td>PFHUG1<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	211 <td>1<td>PFHUG1<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	1 <td>PFHUG1<td>platelet-derived grow<th>5.81e-05</th></td></td>	PFHUG1 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
31 <td>88<td>72.7<td>215<td>2<td>S08220<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>215<td>2<td>S08220<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>215<td>2<td>S08220<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	215 <td>2<td>S08220<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	2 <td>S08220<td>platelet-derived grow<th>5.81e-05</th></td></td>	S08220 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
32 <td>88<td>72.7<td>226<td>2<td>IS1550<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td></td>	88 <td>72.7<td>226<td>2<td>IS1550<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td></td>	72.7 <td>226<td>2<td>IS1550<td>platelet-derived grow<th>5.81e-05</th></td></td></td></td>	226 <td>2<td>IS1550<td>platelet-derived grow<th>5.81e-05</th></td></td></td>	2 <td>IS1550<td>platelet-derived grow<th>5.81e-05</th></td></td>	IS1550 <td>platelet-derived grow<th>5.81e-05</th></td>	platelet-derived grow <th>5.81e-05</th>	5.81e-05
33 <td>87<td>71.9<td>128<td>2<td>IS1295<td>vascular endothelial<th>8.78e-05</th></td></td></td></td></td></td>	87 <td>71.9<td>128<td>2<td>IS1295<td>vascular endothelial<th>8.78e-05</th></td></td></td></td></td>	71.9 <td>128<td>2<td>IS1295<td>vascular endothelial<th>8.78e-05</th></td></td></td></td>	128 <td>2<td>IS1295<td>vascular endothelial<th>8.78e-05</th></td></td></td>	2 <td>IS1295<td>vascular endothelial<th>8.78e-05</th></td></td>	IS1295 <td>vascular endothelial<th>8.78e-05</th></td>	vascular endothelial <th>8.78e-05</th>	8.78e-05
34 <td>87<td>71.9<td>190<td>2<td>B44881<td>vascular endothelial<th>8.78e-05</th></td></td></td></td></td></td>	87 <td>71.9<td>190<td>2<td>B44881<td>vascular endothelial<th>8.78e-05</th></td></td></td></td></td>	71.9 <td>190<td>2<td>B44881<td>vascular endothelial<th>8.78e-05</th></td></td></td></td>	190 <td>2<td>B44881<td>vascular endothelial<th>8.78e-05</th></td></td></td>	2 <td>B44881<td>vascular endothelial<th>8.78e-05</th></td></td>	B44881 <td>vascular endothelial<th>8.78e-05</th></td>	vascular endothelial <th>8.78e-05</th>	8.78e-05
35 <td>87<td>71.9<td>190<td>2<td>A35987<td>gloma-derived vascul<th>8.78e-05</th></td></td></td></td></td></td>	87 <td>71.9<td>190<td>2<td>A35987<td>gloma-derived vascul<th>8.78e-05</th></td></td></td></td></td>	71.9 <td>190<td>2<td>A35987<td>gloma-derived vascul<th>8.78e-05</th></td></td></td></td>	190 <td>2<td>A35987<td>gloma-derived vascul<th>8.78e-05</th></td></td></td>	2 <td>A35987<td>gloma-derived vascul<th>8.78e-05</th></td></td>	A35987 <td>gloma-derived vascul<th>8.78e-05</th></td>	gloma-derived vascul <th>8.78e-05</th>	8.78e-05
36 <td>87<td>71.9<td>214<td>2<td>A44881<td>vascular endothelial<th>8.78e-05</th></td></td></td></td></td></td>	87 <td>71.9<td>214<td>2<td>A44881<td>vascular endothelial<th>8.78e-05</th></td></td></td></td></td>	71.9 <td>214<td>2<td>A44881<td>vascular endothelial<th>8.78e-05</th></td></td></td></td>	214 <td>2<td>A44881<td>vascular endothelial<th>8.78e-05</th></td></td></td>	2 <td>A44881<td>vascular endothelial<th>8.78e-05</th></td></td>	A44881 <td>vascular endothelial<th>8.78e-05</th></td>	vascular endothelial <th>8.78e-05</th>	8.78e-05
37 <td>86<td>71.1<td>149<td>2<td>A41236<td>placental growth fact<th>1.32e-04</th></td></td></td></td></td></td>	86 <td>71.1<td>149<td>2<td>A41236<td>placental growth fact<th>1.32e-04</th></td></td></td></td></td>	71.1 <td>149<td>2<td>A41236<td>placental growth fact<th>1.32e-04</th></td></td></td></td>	149 <td>2<td>A41236<td>placental growth fact<th>1.32e-04</th></td></td></td>	2 <td>A41236<td>placental growth fact<th>1.32e-04</th></td></td>	A41236 <td>placental growth fact<th>1.32e-04</th></td>	placental growth fact <th>1.32e-04</th>	1.32e-04
38 <td>84<td>69.4<td>158<td>2<td>A56125<td>placental growth fact<th>1.06e-04</th></td></td></td></td></td></td>	84 <td>69.4<td>158<td>2<td>A56125<td>placental growth fact<th>1.06e-04</th></td></td></td></td></td>	69.4 <td>158<td>2<td>A56125<td>placental growth fact<th>1.06e-04</th></td></td></td></td>	158 <td>2<td>A56125<td>placental growth fact<th>1.06e-04</th></td></td></td>	2 <td>A56125<td>placental growth fact<th>1.06e-04</th></td></td>	A56125 <td>placental growth fact<th>1.06e-04</th></td>	placental growth fact <th>1.06e-04</th>	1.06e-04
39 <td>75<td>62.0<td>463<td>2<td>S77558<td>hypothetical protein<th>1.03e-02</th></td></td></td></td></td></td>	75 <td>62.0<td>463<td>2<td>S77558<td>hypothetical protein<th>1.03e-02</th></td></td></td></td></td>	62.0 <td>463<td>2<td>S77558<td>hypothetical protein<th>1.03e-02</th></td></td></td></td>	463 <td>2<td>S77558<td>hypothetical protein<th>1.03e-02</th></td></td></td>	2 <td>S77558<td>hypothetical protein<th>1.03e-02</th></td></td>	S77558 <td>hypothetical protein<th>1.03e-02</th></td>	hypothetical protein <th>1.03e-02</th>	1.03e-02
40 <td>63<td>52.1<td>143<td>2<td>B21761<td>high cysteine chorion<th>1.03e-02</th></td></td></td></td></td></td>	63 <td>52.1<td>143<td>2<td>B21761<td>high cysteine chorion<th>1.03e-02</th></td></td></td></td></td>	52.1 <td>143<td>2<td>B21761<td>high cysteine chorion<th>1.03e-02</th></td></td></td></td>	143 <td>2<td>B21761<td>high cysteine chorion<th>1.03e-02</th></td></td></td>	2 <td>B21761<td>high cysteine chorion<th>1.03e-02</th></td></td>	B21761 <td>high cysteine chorion<th>1.03e-02</th></td>	high cysteine chorion <th>1.03e-02</th>	1.03e-02
41 <td>63<td>52.1<td>392<td>2<td>A60777<td>keratin 2, type I, ha<th>1.03e+00</th></td></td></td></td></td></td>	63 <td>52.1<td>392<td>2<td>A60777<td>keratin 2, type I, ha<th>1.03e+00</th></td></td></td></td></td>	52.1 <td>392<td>2<td>A60777<td>keratin 2, type I, ha<th>1.03e+00</th></td></td></td></td>	392 <td>2<td>A60777<td>keratin 2, type I, ha<th>1.03e+00</th></td></td></td>	2 <td>A60777<td>keratin 2, type I, ha<th>1.03e+00</th></td></td>	A60777 <td>keratin 2, type I, ha<th>1.03e+00</th></td>	keratin 2, type I, ha <th>1.03e+00</th>	1.03e+00
42 <td>62<td>51.2<td>178<td>2<td>A23219<td>high-cysteine chorion<th>1.48e+00</th></td></td></td></td></td></td>	62 <td>51.2<td>178<td>2<td>A23219<td>high-cysteine chorion<th>1.48e+00</th></td></td></td></td></td>	51.2 <td>178<td>2<td>A23219<td>high-cysteine chorion<th>1.48e+00</th></td></td></td></td>	178 <td>2<td>A23219<td>high-cysteine chorion<th>1.48e+00</th></td></td></td>	2 <td>A23219<td>high-cysteine chorion<th>1.48e+00</th></td></td>	A23219 <td>high-cysteine chorion<th>1.48e+00</th></td>	high-cysteine chorion <th>1.48e+00</th>	1.48e+00
43 <td>61<td>50.4<td>438<td>2<td>C64148<td>hypothetical protein<th>2.13e+00</th></td></td></td></td></td></td>	61 <td>50.4<td>438<td>2<td>C64148<td>hypothetical protein<th>2.13e+00</th></td></td></td></td></td>	50.4 <td>438<td>2<td>C64148<td>hypothetical protein<th>2.13e+00</th></td></td></td></td>	438 <td>2<td>C64148<td>hypothetical protein<th>2.13e+00</th></td></td></td>	2 <td>C64148<td>hypothetical protein<th>2.13e+00</th></td></td>	C64148 <td>hypothetical protein<th>2.13e+00</th></td>	hypothetical protein <th>2.13e+00</th>	2.13e+00
44 <td>60<td>49.6<td>323<td>2<td>I48667<td>Mha3 (keratin acidic<th>3.04e+00</th></td></td></td></td></td></td>	60 <td>49.6<td>323<td>2<td>I48667<td>Mha3 (keratin acidic<th>3.04e+00</th></td></td></td></td></td>	49.6 <td>323<td>2<td>I48667<td>Mha3 (keratin acidic<th>3.04e+00</th></td></td></td></td>	323 <td>2<td>I48667<td>Mha3 (keratin acidic<th>3.04e+00</th></td></td></td>	2 <td>I48667<td>Mha3 (keratin acidic<th>3.04e+00</th></td></td>	I48667 <td>Mha3 (keratin acidic<th>3.04e+00</th></td>	Mha3 (keratin acidic <th>3.04e+00</th>	3.04e+00
45 <td>59<td>48.8<td>466<td>2<td>F69806<td>RNA methyltransferase<th>4.33e+00</th></td></td></td></td></td></td>	59 <td>48.8<td>466<td>2<td>F69806<td>RNA methyltransferase<th>4.33e+00</th></td></td></td></td></td>	48.8 <td>466<td>2<td>F69806<td>RNA methyltransferase<th>4.33e+00</th></td></td></td></td>	466 <td>2<td>F69806<td>RNA methyltransferase<th>4.33e+00</th></td></td></td>	2 <td>F69806<td>RNA methyltransferase<th>4.33e+00</th></td></td>	F69806 <td>RNA methyltransferase<th>4.33e+00</th></td>	RNA methyltransferase <th>4.33e+00</th>	4.33e+00

## ALIGNMENTS

RESULT	ENTRY	1	JC4680	#type complete
TITLE	ALTERNATE_NAMES	vascular endothelial growth factor-related factor 167 - mouse		
ORGANISM	ORGANISM	10-May-1996 #sequence_revision 19-Jul-1996 #text_change 10-Sep-1997		

ACCESSIONS  
#authors  
#journal  
#title  
#accession  
#molecule\_type mRNA  
#residues  
#cross-references GB:U3837; NID:G1314335; PID:G1314336

COMMENT This factor is a mitogen, that is selective for endothelial cells,  
and belongs to a family of growth factor. This transcript is  
differentially spliced to produce two major isoforms, vascular  
endothelial growth factors 167 and VEGF 186.

## GENETICS

#gene	vrf
#map-position 19	
#introns 137/2	

FEATURE  
1-21  
22-188  
SUMMARY  
#domain signal sequence #status predicted #label SIG\

Query Match 100.0%; Score 121; DB 2; Length 188;  
Best Local Similarity 100.0%; Pred. No. 3.68e-11;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 PSCVTVORCGCCP 83  
Qy 69 PSCVTVORCGCCP 82

RESULT 2  
ENTRY JC4679 #type complete  
TITLE vascular endothelial growth factor-related factor 166 - mouse  
ALTERNATE\_NAMES vrf 186 protein, VEGF 186  
ORGANISM 10-May-1996 #sequence\_revision 19-Jul-1996 #text\_change 10-Sep-1997

ACCESSIONS J04679  
REFERENCE J04679  
#authors Townson, S.; Jagerant, J.; Grimmond, S.; Sillins, G.; Nordenskjold, M.; Weber, G.; Hayward, N.  
#journal Biochem. Biophys. Res. Commun. (1996) 220:922-928  
#title Characterization of the murine VEGF-related factor gene.  
#accession J04679  
#molecule\_type mRNA  
#residues 1-207  
#label TOM  
#cross-references GB:U43836; NID:q1703480; PID:q1314334  
COMMENT This factor is a mitogen, that is selective for endothelial cells, and belongs to a family of growth factors. This transcript is differentially spliced to produce two major isoforms, vascular endothelial growth factors 167 and 186.

GENETICS  
#gene vrf  
#map\_position 19  
#keywords growth factor  
FEATURE  
1-21  
22-207  
#domain signal sequence #status predicted #label SIG  
#product vascular endothelial growth factor related factor #status predicted #label MAT  
SUMMARY #length 207 #molecular-weight 21914 #checksum 1525

Query Match 100.0%; Score 121; DB 2; Length 207;  
Best Local Similarity 100.0%; Pred. No. 3.68e-11;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 PSCVTQRCGCC 83  
QY 69 PSCVTQRCGCC 82

RESULT 3  
ENTRY 1PDGB2 #type fragment  
TITLE Platelet-derived growth factor db, chain B, fragment 2 - human  
ORGANISM #formal\_name Homo sapiens #common\_name man  
#note recombinant form expressed in (Saccharomyces cerevisiae) A51904  
REFERENCE #authors Oefner, C.; Darcy, A.D.; Winkler, F.K.; Eggmann, B.; Hosang, M.  
#submission submitted to the Brookhaven Protein Data Bank, July 1992  
#cross-references PDB:1PDG  
REFERENCE TN011679  
#authors Oefner, C.; D'Arcy, A.; Winkler, F.K.; Eggmann, B.; Hosang, M.

#journal EMBO J. (1992) 11:3921  
#title Crystal structure of human platelet-derived growth factor bb.  
COMMENT Resolution: 3.0 angstroms  
KEYWORDS Determination: X-ray diffraction  
FEATURE Growth factor  
5-13  
21-40, 44-63 #region beta sheet\  
18-21 #region beta sheet\  
41-44 #region turn\  
15 #disulfide\_bonds interchain (to 1PDGA2:6)\  
6 #disulfide\_bonds interchain (to 1PDGA2:15)\  
23 #disulfide\_bonds interchain (to 1PDGB1:10)\  
12-60 #disulfide\_bonds\  
16-62 #disulfide\_bonds  
SUMMARY #length 63 #checksum 9137

Query Match 80.2%; Score 97; DB 5; Length 63;  
Best Local Similarity 76.9%; Pred. No. 1.33e-06;  
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 4 PPCVEVORCGCC 16  
QY 69 PSCVTQRCGCC 81

RESULT 4  
ENTRY 1PDGC2 #type fragment  
TITLE Platelet-derived growth factor bb, chain C, fragment 2 - human  
ORGANISM #formal\_name Homo sapiens #common\_name man  
#note recombinant form expressed in (Saccharomyces cerevisiae) A51904  
REFERENCE #authors Oefner, C.; Darcy, A.D.; Winkler, F.K.; Eggmann, B.; Hosang, M.  
#submission submitted to the Brookhaven Protein Data Bank, July 1992  
#cross-references PDB:1PDG  
REFERENCE TN011671  
#authors Oefner, C.; D'Arcy, A.; Winkler, F.K.; Eggmann, B.; Hosang, M.

#journal EMBO J. (1992) 11:3921  
#title Crystal structure of human platelet-derived growth factor bb.  
COMMENT Resolution: 3.0 angstroms  
KEYWORDS Determination: X-ray diffraction  
FEATURE Growth factor  
6-14  
22-41, 45-65 #region beta sheet\  
19-22 #region turn\  
42-45 #region turn\  
24 #disulfide\_bonds interchain (to 1PDG1:10)\  
13-61 #disulfide\_bonds\  
17-63 #disulfide\_bonds  
SUMMARY #length 66 #checksum 1405

Query Match 80.2%; Score 97; DB 5; Length 66;  
Best Local Similarity 76.9%; Pred. No. 1.33e-06;  
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 5 PPCVEVORCGCC 17  
QY 69 PSCVTQRCGCC 81

RESULT 5  
ENTRY 1PDGB2 #type fragment  
TITLE Platelet-derived growth factor db, chain A, fragment 2 - human  
ORGANISM #formal\_name Homo sapiens #common\_name man  
#note recombinant form expressed in (Saccharomyces cerevisiae) A51904  
REFERENCE #authors Oefner, C.; Darcy, A.D.; Winkler, F.K.; Eggmann, B.; Hosang, M.  
#submission submitted to the Brookhaven Protein Data Bank, July 1992  
#cross-references PDB:1PDG  
REFERENCE TN011677  
#authors Oefner, C.; D'Arcy, A.; Winkler, F.K.; Eggmann, B.; Hosang, M.

#journal EMBO J. (1992) 11:3921  
#title Crystal structure of human platelet-derived growth factor bb.  
COMMENT Resolution: 3.0 angstroms  
KEYWORDS Determination: X-ray diffraction  
FEATURE Growth factor  
6-14  
22-41, 45-65 #region beta sheet\  
19-22 #region beta sheet\  
42-45 #region turn\  
24 #disulfide\_bonds interchain (to 1PDGA1:8)\  
13-61 #disulfide\_bonds interchain (to 1PDGB2:16)\  
16 #disulfide\_bonds interchain (to 1PDGB2:7)\  
17-63 #disulfide\_bonds  
SUMMARY #length 68 #checksum 2770

Query Match 80.2%; Score 97; DB 5; Length 68;  
Best Local Similarity 76.9%; Pred. No. 1.33e-06;  
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;



```

RESULT      6
ENTRY      138108      #type complete
TITLE      platelet-derived growth factor-BB - human
ORGANISM   #formal_name Homo sapiens #common_name man
DATE       06-Sep-1996 #sequence_revision 06-Sep-1996 #text_change
09-May-1997

ACCESSIONS
REFERENCE   I38108
AUTHORS    COOK, A.L.; Kirwin, P.M.; Craig, S.; Bawden, L.J.; Green,
            D.R.; Price, M.J.; Richardson, S.J.; Fallon, A.; Drummond,
            A.H.; Edwards, R.M.; Clements, J.M.
            Biochem. J. (1992) 281:57-65
            Purification and analysis of proteinase-resistant mutants of
            recombinant platelet-derived growth factor-BB exhibiting
            improved biological activity.
            Improved biological activity.
            MUID:92117992
#accession I38108      preliminary: translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues  1-161 #label RRS
#cross-references EMBL:X63966; NID:9311378; PID:935377
CLASSIFICATION #superfamily platelet-derived growth factor
SUMMARY      length 161 #molecular_weight 18237 #checksum 8276

Query Match      80.2% Score 97; DB 2; Length 161;
Best Local Similarity 76.9% Pred. No. 1,33e-06;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0.

Db      42 PCCEVORRCGCC 54
      1:1111111111
Oy      69 PSCVTVORRCGCC 81

RESULT      7
ENTRY      S58383      #type complete
TITLE      hypothetical protein 2 - human
ORGANISM   #formal_name Homo sapiens #common_name man
DATE       12-Feb-1998 #sequence_revision 20-Feb-1998 #text_change
20-Feb-1998

ACCESSIONS
REFERENCE   S58382
AUTHORS    Dirks, R.P.H.; Oonekink, C.; Jansen, H.J.; de Jong, A.;
            Bloemers, H.P.J.
            Nucleic Acids Res. (1995) 23:2815-2822
            A novel human c-sis mRNA species is transcribed from a
            promoter in c-sis intron 1 and contains the code for an
            alternative PDGF B-like protein.
            S58383      preliminary
#accession S58383      preliminary
#status     preliminary
#molecule_type mRNA
#residues   1-185 #label DIR
#cross-references EMBL:X83705
SUMMARY      length 185 #molecular_weight 20774 #checksum 2728

Query Match      80.2% Score 97; DB 2; Length 185;
Best Local Similarity 76.9% Pred. No. 1,33e-06;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0.

Db      107 PCCEVORRCGCC 119
      1:1111111111
Oy      69 PSCVTVORRCGCC 81

RESULT      8
ENTRY      S25097      #type fragment
TITLE      platelet-derived growth factor chain B precursor - rat
            (fragment)
ORGANISM   #formal_name Rattus norvegicus #common_name Norway rat

```

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DATE 07-Apr-1994 #sequence_revision 07-Apr-1994 #text_change
ACCESSIONS 08-Sep-1997
REFERENCE S25097; S33765; 152866
#authors Herren, B.; Weyer, K.A.; Rouge, M.; Loetscher, P.; Pech, M.
#submissions submitted to the EMBL Data Library, July 1992
#description Cross-species conservation in sequence and function of PDGF
ligands and receptors.
#accession S25097
#molecule_type mRNA
#residues 1-225 #label HER1
#cross-references EMBL:Z14117; NID:g556867; PID:g56686
REFERENCE S33764
#authors Herren, B.; Weyer, K.A.; Rouge, M.; Loetscher, P.; Pech, M.
#journal Blochim. Biophys. Acta (1993) 1173:294-302
#title Conservation in sequence and affinity of human and rodent
PDGF ligands and receptors.
#accession S33765
#molecule_type mRNA
#residues 89-172 #label HER2
#cross-references EMBL:Z14117
REFERENCE 152866
#authors Lindner, V.; Giachelini, C.M.; Schwartz, S.M.; Reidy, M.A.
#journal Circ. Res. (1995) 76:951-957
#title A subpopulation of smooth muscle cells in injured rat
arteries expresses platelet-derived growth factor-B (bfgf)
mRNA.
#cross-references MUID:95277908
#accession 152866
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 74-182 #label RES
#cross-references GB:L40991; NID:g7271777; PID:g727178
GENERIC
#gene PDGF-B
CLASSIFICATION #superfamily platelet-derived growth factor
KEYWORDS growth factor; mitogen; platelet
SUMMARY #length 225 #checksum 2584
Query Match 80.2%; Score 97; DB 2; Length 225;
Best Local Similarity 76.9%; Pred. No. 1,336-06;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0
Db 114 PCCEVQRCGCC 126
Oy 69 PSCVTVQRCGCC 81
RESULT 9
ENTRY TWMVSS #type complete
TITLE PDGF-related transforming protein (sis) : simian sarcoma
virus
ALTERNATE_NAMES p28-sis
ORGANISM #formal_name simian sarcoma virus
DATE 23-Jul-1983 #sequence_revision 20-Sep-1984 #text_change
ACCESSIONS A01381
REFERENCE A03982
#authors Devare, S.G.; Reddy, E.P.; Law, J.D.; Robbins, K.C.;
Aaronson, S.A.
#journal Proc. Natl. Acad. Sci. U.S.A. (1983) 80:731-735
#title Nucleotide sequence of the simian sarcoma virus genome:
demonstration that its acquired cellular sequences encode
the transforming gene product p28(sis).
#cross-references MUID:83144004
#accession A01381
#molecule_type genomic RNA
#residues 1-226 #label DEV
GENERIC
#gene sis
CLASSIFICATION #superfamily platelet-derived growth factor
KEYWORDS growth factor; transforming protein
FEATURE

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6-226      #domain platelet-derived growth factor chain B
SUMMARY    #length 226 #molecular-weight 25411 #checksum 2886

Query Match
Best Local Similarity 80.2%; Score 97; DB 1; Length 226;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 107 PCVEVORCGGCC 119
QY 69 PSCVTVORCGGCC 81

RESULT 10
ENTRY    #type fragment
TITLE    platelet-derived growth factor chain B precursor - human
          (fragment)
ORGANISM #formal name Homo sapiens #common name man
DATE     18-Nov-1994 #sequence revision 18-Nov-1994 #text change
          03-May-1996
ACCESSION A55030
REFERENCE A55030
AUTHORS   Johnson, A.; Heldin, C.H.; Wasteson, A.; Westermark, B.;
          Denel, T.F.; Huang, J.S.; Seeburg, P.H.; Gray, A.; Ullrich,
          A.; Scerace, G.; Stroobant, P.; Waterfield, M.D.
          EMBO J. (1984) 3:921-928
          The c-sis gene encodes a precursor of the B chain of
          platelet-derived growth factor.
          #accession A55030
          #status preliminary
          ##molecule-type DNA
          ##residues 1-230 ##label JOH
          #cross-references GB:X00556; GB:X00559; GB:X00560; GB:X00561; GB:X00562
CLASSIFICATION #superfamily platelet-derived growth factor
SUMMARY        #length 230 #checksum 3580

Query Match
Best Local Similarity 80.2%; Score 97; DB 2; Length 230;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 111 PCVEVORCGGCC 123
QY 69 PSCVTVORCGGCC 81

RESULT 11
ENTRY    #type complete
TITLE    platelet-derived growth factor chain B precursor - human
          PDGF B-chain; PDGF-B; PDGF-IT; PDGF-related transforming
          protein (sis)
ALTERNATE_NAMES
ORGANISM #formal name Homo sapiens #common name man
DATE     18-Apr-1984 #sequence revision 20-Sep-1984 #text change
          20-Mar-1998
ACCESSION A94776; A21024; A23532; A93366; A25141; A94271; A93308;
          A43499; S56115; I57635; I37266; A01380; A54622
REFERENCE A94276
AUTHORS   Josephs, S.F.; Ratner, L.; Clarke, M.F.; Westin, E.H.; Reitz,
          M.S.; Wong-Staal, F.
          Science (1984) 225:636-639
          Transforming potential of human c-sis nucleotide sequences
          encoding platelet-derived growth factor.
          #cross-references MUID:84250225
          #accession A94276
          ##molecule-type DNA
          ##residues 1-241 ##label JOS
REFERENCE ##cross-references GB:K01401; NID:9338206; PID:9338209
A21024
AUTHORS   Chin, I.M.; Reddy, E.P.; Givol, D.; Robbins, K.C.; Tronick,
          S.R.; Aaronson, S.A.
          Cell (1984) 37:123-129
          Nucleotide sequence analysis identifies the human c-sis
          proto-oncogene as a structural gene for platelet-derived
          growth factor.

#cross-references MUID:84205633
#accession A21024
##molecule-type DNA
#residues 17-20,'RQ',22-241 ##label CH2
REFERENCE A23532
AUTHORS   Rao, C.D.; Igarashi, H.; Chiu, I.M.; Robbins, K.C.; Aaronson,
          S.A.
          Proc. Natl. Acad. Sci. U.S.A. (1986) 83:2392-2396
          Structure and sequence of the human c-sis/platelet-derived
          growth factor 2 (sis/PDGF2) transcriptional unit.
          #cross-references MUID:86205961
          #accession A23532
          ##molecule-type mRNA
          ##residues 1-241 ##label RAO
REFERENCE ##cross-references GB:M12783; GB:M16288; NID:9338210; PID:9338211
A93366
AUTHORS   Collins, T.; Ginsburg, D.; Boss, J.M.; Orkin, S.H.; Pober,
          J.S.
          Nature (1985) 316:748-750
          Cultured human endothelial cells express platelet-derived
          growth factor B chain: cDNA cloning and structural
          analysis.
          #cross-references MUID:85296313
          #accession A93366
          ##molecule-type mRNA
          ##residues 1-241 ##label COL
REFERENCE ##cross-references GB:X02811; NID:935371; PID:935372
A25141
AUTHORS   Welch, H.A.; Sebald, W.; Schaller, H.U.; Hoppe, J.
          FEBS Lett. (1986) 198:344-348
          The human osteosarcoma cell line U-2 OS expresses a 3.8
          kilobase mRNA which codes for the sequence of the PDGF-r
          chain.
          #cross-references MUID:86164981
          #accession A25141
          ##molecule-type mRNA
          ##residues 26-241 ##label WEI
REFERENCE ##cross-references GB:X03702; NID:935374; PID:935375
A94271
AUTHORS   Antonlades, H.N.; Hunkapiller, M.W.
          Science (1983) 220:963-965
          Human platelet-derived growth factor (PDGF): amino-terminal
          amino acid sequence.
          #cross-references MUID:83197379
          #accession A94271
          ##molecule-type protein
          ##residues 82-100,'E',102-104,'C',106,'C',108-110 ##label ANT
REFERENCE A93308
AUTHORS   Waterfield, M.D.; Scerace, G.T.; Whittle, N.; Stroobant, P.;
          Johnson, A.; Wasteson, A.; Westermark, B.; Heldin, C.H.;
          Huang, J.S.; Denel, T.F.
          Nature (1983) 304:35-39
          Platelet-derived growth factor is structurally related to the
          putative transforming protein p28(sis) of simian sarcoma
          virus.
          #cross-references MUID:83244981
          #accession A93308
          ##molecule-type protein
          ##residues 82-112 ##label WAT
REFERENCE A43499
AUTHORS   Josephs, S.F.; Guo, C.; Ratner, L.; Wong-Staal, F.
          Science (1984) 223:487-491
          Human proto-oncogene nucleotide sequences corresponding to
          the transforming region of simian sarcoma virus.
          #accession A43499
          #status not compared with conceptual translation
          ##molecule-type DNA
          ##residues 'Q',22-241 ##label JO2
REFERENCE S56115
AUTHORS   Lu, K.V.; Rohde, M.F.; Thomason, A.R.; Kenney, W.C.; Lu, H.S.
          Biochem. J. (1995) 309:411-417
          Mistranslation of a TGA termination codon as tryptophan in
          recombinant platelet-derived growth factor expressed in

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#accession      Escherichia coli.
#status          S56115
#molecule-type preliminary
#residues        82-93 #label LUK
REFERENCE
#authors         Rao, C.D.; Peck, M.; Robbins, K.C.; Aaronson, S.A.
#journal         Mol. Cell. Biol. (1988) 8:284-292
#title           The 5' untranslated sequence of the c-sis/platelet-derived
                  growth factor 2 transcript is a potent translational
                  inhibitor
#cross-references MIMD:88094398
#accession       157635
#status          translated from GB/EMBL/DBJ
#molecule-type DNA
#residues        1-20 #label RES
#cross-references GB:M19719; NID:g189727; PID:g553608
REFERENCE
#authors         Ratner, L.; Josephs, S.F.; Jarrett, R.; Reitz, M.S.
#journal         Nucleic Acids Res. (1985) 13:5007-5018
#title           Nucleotide sequence of transforming human c-sis cDNA clones
                  with homology to platelet-derived growth factor.
#cross-references MIMD:85269623
#accession       137266
#status          translated from GB/EMBL/DBJ
#molecule-type mRNA
#residues        1-241 #label RE2
#cross-references EMBL:X02744; NID:g30246; PID:g30247
COMMENT
#The receptor for this growth factor is a tyrosine kinase.
#Human platelet-derived growth factor, a potent mitogen for cells of
#mesenchymal origin, is a disulfide-linked dimer of two chains,
#which may be both of type A, both of type B, or an A-B
#heterodimer. Reduction of its disulfide bonds irreversibly
#destroys biological activity. Different receptors bind
#preferentially to A-A and B-B homodimers. This growth factor
#induces a variety of cellular responses.
#B and A chains are encoded by genes located on different
#chromosomes. The two genes are expressed independently in human
#tumor cell lines.
COMMENT
#GENETICS
#gene            GDB:PDGFR
#cross-references GDB:120709; OMIM:190040
#map_position    22q12.3-22q13.1
#introns         57/3; 94/1; 192/3; 241/1
CLASSIFICATION
#superfamily    #superfamily platelet-derived growth factor
#keywords        growth factor; mitogen
FEATURE
#domain          1-20
#domain signal sequence #status predicted #label SIG\
#domain amino-terminal propeptide #status predicted
#label PRO\
#product         82-190
#product platelet-derived growth factor chain B #status
#experimental    159-163
#region receptor binding #status predicted\
#region receptor binding #status predicted\
#domain carboxyl-terminal propeptide #status predicted
#label CTF\
97-141,130-178,
134-180
#disulfide bonds #status experimental\
#disulfide bonds interchain (to 133 in homodimeric form)
124
#status experimental\
124
#disulfide bonds interchain (to chain A-132 in
#heterodimeric form) #status predicted\
133
#disulfide bonds interchain (to 124 in homodimeric form)
#status experimental\
133
#disulfide bonds interchain (to chain A-124 in
#heterodimeric form) #status predicted
SUMMARY
#length 241 #molecular-weight 27283 #checksum 3348
Query Match      80.2%; Score 97; DB 1; Length 241;
Best Local Similarity 76.9%; Pred. No. 1.33e-06;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
DB 122 PSCVWORCGGCC 134
|:|:| |:|:|:|:|

```

```

Oy 69 PSCVWORCGGCC 81
RESULT 12
ENTRY    PPMSCB #type complete
TITLE    platelet-derived growth factor chain B precursor (sis)
          mouse
ALTERNATE_NAMES
ORGANISM  PDGF-related transforming protein
          #formal_name Mus musculus #common_name mouse
DATE      31-Dec-1992 #sequence_revision 31-Mar-1993 #text_change
          24-Oct-1997
ACCESSIONS
REFERENCE A39073
#authors   Bonthron, D.T.; Sultan, P.; Collins, T.
#journal   Genomics (1991) 10:287-292
#title     Structure of the murine c-sis proto-oncogene (Sis, PDGFB)
          encoding the B chain of platelet-derived growth factor.
#cross-references MIMD:91257844
#accession  A39073
#molecule-type DNA
#residues   1-241 #label BON
#cross-references GB:M64849; GB:M5394; NID:g192818; PID:g192820
GENETICS
#gene       sis
CLASSIFICATION
#superfamily platelet-derived growth factor
#glycoprotein; growth factor; platelet; proto-oncogene;
#transforming protein
FEATURE
#domain          1-20
#domain signal sequence #status predicted #label SIG\
#domain propeptide #status predicted #label PRO\
#product         82-190
#product platelet-derived growth factor chain B #status
#predicted #label MAT\
159-163
#region receptor binding #status predicted\
#binding site carbohydrate (Asn) (covalent) #status
#predicted
SUMMARY
#length 241 #molecular-weight 27381 #checksum 4345
Query Match      80.2%; Score 97; DB 1; Length 241;
Best Local Similarity 76.9%; Pred. No. 1.33e-06;
Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
DB 122 PSCVWORCGGCC 134
|:|:| |:|:|:|:|
Oy 69 PSCVWORCGGCC 81
RESULT 13
ENTRY    TYCTSS #type complete
TITLE    platelet-derived growth factor chain B precursor - cat
          PDGF-related transforming protein
ALTERNATE_NAMES
ORGANISM  #formal_name Felis silvestris catus #common_name domestic cat
DATE      30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
          31-Mar-1996
ACCESSIONS
REFERENCE A26402
#authors   Van den Ouweland, A.M.W.; Van Groningen, J.J.M.; Schaiken,
          J.A.; Van Neck, H.W.; Bloemers, H.P.J.; Van de Ven, W.J.M.
#journal   Nucleic Acids Res. (1987) 15:959-970
#title     Genetic organization of the c-sis transcription unit.
#cross-references MIMD:87146463
#accession  A26402
#molecule-type mRNA
#residues   1-245 #label VAN
GENETICS
#gene       sis
CLASSIFICATION
#superfamily platelet-derived growth factor
#glycoprotein; growth factor; platelet; proto-oncogene;
#transforming protein
FEATURE
#domain          1-20
#domain signal sequence #status predicted #label SIG\
#domain propeptide #status predicted #label PRO\
#product         82-194
#product platelet-derived growth factor chain B #status
#predicted #label MAT\

```

163-167 #region receptor binding #status predicted\  
63 #binding\_site carbohydrate (Asn) (covalent) #status  
predicted

SUMMARY #length 245 #molecular-weight 27787 #checksum 2148

Query Match 80.2%; Score 97; DB 1; Length 245;

Best Local Similarity 76.9%; Pred. No. 1.33e-06;

Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 126 PPCVYVRCGCC 138

OY 69 PSCVTYVRCGCC 81

RESULT 14

ENTRY A25669 #type complete  
TITLE PDGF-related transforming protein (v-sis) - simian sarcoma

ORGANISM #formal\_name simian sarcoma virus  
DATE 28-Sep-1987 #sequence\_revision 28-Sep-1987 #text\_change  
12-Apr-1995

ACCESSIONS A25669  
REFERENCE A25669  
#authors Hamink, M.; Sauer, M.K.; Donoghue, D.J.  
#journal Mol. Cell. Biol. (1986) 6:1304-1314  
#cross-references MUID:87064399

#accession A25669  
#status preliminary

##molecule\_type protein  
##residues 1-271 ##label HAN  
##note deletions in the C-terminal Coding Region of the v-sis  
Gene: Dimerization is Required for Transformation

CLASSIFICATION #superfamily platelet-derived growth factor  
SUMMARY #length 271 #molecular-weight 30108 #checksum 5973

Query Match 80.2%; Score 97; DB 2; Length 271;

Best Local Similarity 76.9%; Pred. No. 1.33e-06;

Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 152 PPCVYVRCGCC 164

OY 69 PSCVTYVRCGCC 81

RESULT 15

ENTRY B49530 #type complete  
TITLE vascular endothelial growth factor homolog A2R, 14.7K - Orf

ORGANISM #formal\_name Orf virus  
DATE 07-Apr-1994 #sequence\_revision 18-Nov-1994 #text\_change  
20-Mar-1998

ACCESSIONS B49530  
REFERENCE A49530  
#authors Lytle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.;  
Robinson, A.J.

#journal J. Virol. (1994) 68:84-92  
#title Homologs of vascular endothelial growth factor are encoded by  
the poxvirus orf virus.

#cross-references MUID:94076465  
#contents NZ2  
#accession B49530  
#status preliminary

##molecule\_type DNA  
##residues 1-133 ##label LYT  
##cross-references GB:S67520; NID:g456897; PID:g456899  
#note sequence inconsistent with nucleotide translation  
sequence extracted from NCBI backbone (NCBIN:141420,  
NCBIP:141425)

SUMMARY #length 133 #molecular-weight 14729 #checksum 8681

Query Match

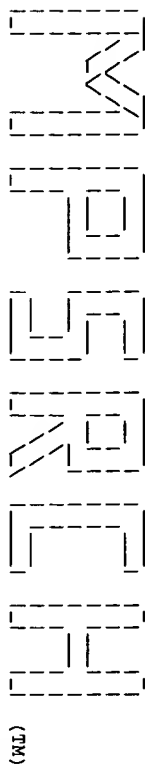
Best Local Similarity 78.5%; Score 95; DB 2; Length 133;

Matches 10; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 59 PPCVTIMRCGCC 71

OY 69 PSCVTYVRCGCC 81

Search completed: Thu Nov 26 00:01:13 1998  
Job time : 35 secs.



(TM)

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Mpsrch\_dp protein - protein database search, using Smith-Waterman algorithm

Run on: Wed Nov 25 23:59:51 1998; Maspar time 2.92 Seconds

Tabular output not generated. 77,454 Million cell updates/sec

Title: >US-09-033-662-2  
Description: (469-82) from US09033662.pep  
Perfect Score: 121  
Sequence: 1 PSCVTVQRCGGCCP 14

Scoring table:  
PAM 150  
Gap 11

Searched: 131922 seqs, 16180660 residues

Post-processing: Minimum Match 08  
Listing first 45 summaries

Database:

a-Geneseg32  
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7  
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13  
14:part14 15:part15 16:part16 17:part17 18:part18  
19:part19 20:part20 21:part21 22:part22 23:part23  
24:part24 25:part25 26:part26 27:part27 28:part28  
29:part29

Statistics: Mean 17.247; Variance 67.281; scale 0.256

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description	Pred. No.
1	121	100.0	101 19	W00728	Vascular endothelial	6.08e-05
2	121	100.0	102 21	W04824	Vascular endothelial	6.08e-05
3	121	100.0	133 21	W04828	Vascular endothelial	6.08e-05
4	121	100.0	143 19	W00727	Vascular endothelial	6.08e-05
5	121	100.0	188 21	W04829	Fibrosarcoma vascular	6.08e-05
6	121	100.0	188 19	W00864	Murine VRF167.	6.08e-05
7	121	100.0	188 19	W00726	Vascular endothelial	6.08e-05
8	121	100.0	188 21	W04826	Vascular endothelial	6.08e-05
9	121	100.0	195 21	W04827	Heart vascular endoth	6.08e-05
10	121	100.0	207 19	W00863	Murine VRF186.	6.08e-05
11	121	100.0	207 19	W00725	Vascular endothelial	6.08e-05
12	121	100.0	207 21	W04831	Vascular endothelial	6.08e-05
13	121	100.0	207 21	W04830	Vascular endothelial	6.08e-05
14	121	100.0	221 23	W07611	Human vascular endoth	6.08e-05
15	101	83.5	620 22	W14994	Human C-Fos induced g	5.63e-03
16	97	80.2	109 4	R25673	PDGF-B.	1.38e-02
17	97	80.2	109 5	R20967	Sequence of B-chain o	1.38e-02
18	97	80.2	109 3	P81030	Sequence of mature B-	1.38e-02

19	97	80.2	109 5	R25443	PDGF analogue #3.	1.38e-02
20	97	80.2	109 16	R87515	PDGF mosaic peptide B	1.38e-02
21	97	80.2	110 12	PDGF-B.	Mature human PDGF-B.	1.38e-02
22	97	80.2	110 16	R87517	PDGF mosaic peptide B	1.38e-02
23	97	80.2	114 6	R04020	PDGF-BB monomer unit.	1.38e-02
24	97	80.2	114 1	P80163	Biosynthetic multilin	1.38e-02
25	97	80.2	120 3	R12879	PDGF-B19 from PCFM1	1.38e-02
26	97	80.2	120 8	R41523	PDGF-B19 from PCFM1	1.38e-02
27	97	80.2	120 12	R67261	PDGF-B19	1.38e-02
28	97	80.2	120 12	R60614	Human PDGF-B 119 subu	1.38e-02
29	97	80.2	130 10	R50012	Truncated Platelet de	1.38e-02
30	97	80.2	130 12	R60615	Human PDGF-B 109 subu	1.38e-02
31	97	80.2	216 12	R68617	Human PDGF-B precursor	1.38e-02
32	97	80.2	220 12	R63470	Recombinant platelet	1.38e-02
33	97	80.2	226 2	R25673	Recombinant platelet	1.38e-02
34	97	80.2	226 3	P60215	Sequence encoded by t	1.38e-02
35	97	80.2	241 8	R40964	PDGF-Bc-sis.	1.38e-02
36	97	80.2	241 10	R50002	Platelet-derived Grow	1.38e-02
37	97	80.2	241 12	R63472	Recombinant platelet	1.38e-02
38	97	80.2	241 12	R50009	Platelet-derived Grow	1.38e-02
39	97	80.2	241 12	R63469	Recombinant platelet	1.38e-02
40	97	80.2	241 1	P80596	Recombinant platelet	1.38e-02
41	97	80.2	256 12	R63473	CGH/PGDF B fusion pro	1.38e-02
42	97	80.2	256 8	R40968	CGH/PGDF Bv-sis fusio	1.38e-02
43	97	80.2	271 12	R63468	Recombinant platelet	1.38e-02
44	97	80.2	271 1	P80595	Recombinant platelet	1.38e-02
45	97	80.2	282 12	R60616	Human PDGF-B 119 link	1.38e-02

## ALIGNMENTS

RESULT 1  
W00728 standard; Protein: 101 AA.

ID W00728; (first entry)  
AC 30-NOV-1996 (first entry)  
DE Vascular endothelial growth factor-like protein SOM175-e4.  
KW Vascular endothelial growth factor; VEGF; SOM175-e4; neuron;  
OS astroglial proliferation.  
KM Homo sapiens.  
FH Key Location/Qualifiers  
FT peptide 1..21  
FT /label= Sig\_peptide  
PN W09627007-A1.  
PD 06-SEP-1996.  
PF 22-FEB-1996; AU0094.  
PR 02-MAR-1995; AU-001457.  
PR 20-NOV-1995; AU-006647.  
PR 22-DEC-1995; AU-007274.  
PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
PI Weber G;  
DR WPI, 96-412774/41.  
DR N-PSDB: T33613.  
PT New growth factor related to vascular endothelial growth factor -  
PT useful for inducing astroglial proliferation and promoting neuronal  
PT survival.  
PS Claim 14; Page 48; 113pp; English.  
CC Splice variants (W00726-28) of the human vascular endothelial growth  
CC factor-like polypeptide SOM175 (see also W00725) are products of  
CC cDNA clones (see also T33611-13) respectively lacking exon 6, exons  
CC 6-7, and exon 4 of the SOM175 gene (see also T33610). They show at  
CC least 1 of the properties of SOM175 including the ability to induce  
CC proliferation of vascular endothelial cells, to interact with  
CC fit-1/fik-1 receptors, and to induce cell migration, cell survival  
CC and/or an increase in intracellular levels of alkaline phosphatase.  
CC Recombinant SOM175 proteins can be used to induce astroglial  
CC proliferation and to promote neural survival and/or proliferation.  
SQ Sequence 101 AA;

Query Match 100.0%; Score 121; DB 19; Length 101;  
Best Local Similarity 100.0%; Pred. No. 6.08e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvqrcgccc 83  
 69 pscvtvqrcgccc 82

RESULT 2  
 ID W04824 standard; peptide: 102 AA.

AC W04824.  
 DT 28-APR-1997 (first entry)  
 DE Vascular endothelial growth factor fragment #1.  
 KW Vascular endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW VEGF; permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse.  
 OS Mus musculus.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PF 01-MAR-1996; U02957.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alitalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 PR N-PSDB: T37909.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis.  
 PS Claim 18; Page 53-54; 107pp; English.  
 CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
 CC proteins of the invention, which promote endothelial or mesodermal cell  
 CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
 CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
 CC diverse effects, depending on the specific biological context in which it  
 CC is found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothelial  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 CC Sequence 102 AA;

Query Match 100.0%; Score 121; DB 21; Length 102;  
 Best Local Similarity 100.0%; Pred. No. 6, 06e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 39 pscvtvqrcgccc 52  
 69 pscvtvqrcgccc 82

RESULT 3  
 ID W04828 standard; Protein: 133 AA.

AC W04828.  
 DT 28-APR-1997 (first entry)  
 DE Vascular endothelial growth factor-B112.  
 KW VEGF; endothelial cell; proliferation; vascular endothelial growth factor; VPF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse.  
 OS Mus musculus.

PN W09626736-A1.  
 PD 06-SEP-1996.  
 PF 01-MAR-1996; U02957.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alitalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 PR N-PSDB: T37912.

PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Claim 18; Page 58; 107pp; English.  
 CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
 CC proteins of the invention, which promote endothelial or mesodermal cell  
 CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
 CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
 CC diverse effects, depending on the specific biological context in which  
 CC is found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothe  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 CC Sequence 133 AA;

Query Match 100.0%; Score 121; DB 21; Length 133;  
 Best Local Similarity 100.0%; Pred. No. 6, 06e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvqrcgccc 83  
 69 pscvtvqrcgccc 82

RESULT 4  
 ID W00727 standard; Protein: 143 AA.

AC W00727.  
 DT 30-NOV-1996 (first entry)  
 DE Vascular endothelial growth factor-like protein SOM175-e6+e7.  
 KW Vascular endothelial growth factor; VEGF; SOM175-e6+e7; neuron;  
 KW astroglial proliferation.  
 OS Homo sapiens.  
 PN Key Location/Qualifiers  
 FT peptide 1..21  
 FT /label=Sig-peptide  
 PN W09627007-A1.  
 PD 06-SEP-1996.  
 PF 22-FEB-1996; AU0094.  
 PR 02-MAR-1995; AU-001457.  
 PR 20-NOV-1995; AU-006647.  
 PR 22-DEC-1995; AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
 PI Weber G;  
 DR WPI: 96-412774/41.  
 DR N-PSDB: T33612.  
 PT New growth factor related to vascular endothelial growth factor -  
 PT useful for inducing astroglial proliferation and promoting neuronal  
 PT survival  
 PS Claim 13; Page 46; 113pp; English.  
 CC Splice variants (W00726-28) of the human vascular endothelial growth

CC factor-like polypeptide SOM175 (see also W00725) are products of  
CC cDNA clones (see also T33611-13) respectively lacking exon 6, exons  
CC 6-7, and exon 4 of the SOM175 gene (see also T33610). They show at  
CC least 1 of the properties of SOM175 including the ability to induce  
CC proliferation of vascular endothelial cells, to interact with  
CC flt-1/flk-1 receptors, and to induce cell migration, cell survival  
CC and/or an increase in intracellular levels of alkaline phosphatase.  
CC Recombinant SOM175 proteins can be used to induce astroglial  
CC proliferation and to promote neural survival and/or proliferation.  
SQ Sequence 143 AA;

Query Match 100.0%; Score 121; DB 19; Length 143;  
Best Local Similarity 100.0%; Pred. No. 6.06e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvgrcgccp 83  
|||||  
QY 69 pscvtvgrcgccp 82

RESULT 5  
ID W04829 standard; Protein; 188 AA.  
AC W04829:  
DT 28-APR-1997 (first entry)  
KW Fibrosarcoma vascular endothelial growth factor-B167.  
KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
KW embryonic development; wound healing; tissue reorganization; antibody;  
KW cancer; metastatic risk; tumour cell; mouse.  
OS Homo sapiens.  
PN W09626736-A1.  
PD 06-SEP-1996.  
PF 01-MAR-1996; U02957.  
PR 01-MAR-1995; U0397651.  
PR 06-JUN-1995; U0469427.  
PR 06-DEC-1995; U05569063.  
PA (LUDM-) LUDWIG INST CANCER RES.  
PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
PI Allitalo K, Eriksson U, Olofsson B, Pajusola K;  
DR WPI: 96-412582/41.  
DR N-PSDB: T37913.  
PT Vascular endothelial growth factor VEGF-B proteins - useful to  
PT accelerate angiogenesis in wound healing, also related nucleic acid  
PT and antibodies for cancer diagnosis  
PS Claim 18; Page 59; 107pp; English.  
CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
CC proteins of the invention, which promote endothelial or mesodermal cell  
CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
CC diverse effects, depending on the specific biological context in which it  
CC is found. VEGF is a potent endothelial cell mitogen, and directly  
CC contributes to induction of angiogenesis in vivo by promoting endothelial  
CC cell growth during normal embryonic development, wound healing, and  
CC tissue regeneration/reorganization. The VEGF proteins of the invention  
CC share the angiogenic and other properties of VEGF, but are distributed  
CC and expressed in tissues differently to VEGF. The proteins can therefore  
CC be used to accelerate angiogenesis in wound healing. Antibodies against  
CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
CC complementary to the coding sequences for the proteins of the invention  
CC can also be used to detect VEGF-B coding sequences. Quantification of  
CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
CC metastatic risk. VEGF-B expression in a cell can be retarded using  
CC antisense sequences direct against the VEGF coding sequences, this is  
CC especially useful in retarding VEGF expression in tumour cells.  
SQ Sequence 188 AA;

Query Match 100.0%; Score 121; DB 21; Length 188;  
Best Local Similarity 100.0%; Pred. No. 6.06e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Db 70 pscvtvgrcgccp 83

QY 69 pscvtvgrcgccp 82  
|||||

RESULT 6  
ID W00864 standard; Protein; 188 AA.  
AC W00864:  
DT 30-NOV-1996 (first entry)  
DE Murine VRF167.  
KW VRF: vascular endothelial growth factor; VEGF; SOM175; neuron;  
KW astroglial proliferation.  
OS Mus musculus.  
FH Key  
FT peptide 1..21  
FT peptide /label= sig\_peptide  
PN W09627007-A1.  
PD 06-SEP-1996.  
PF 22-FEB-1996; AU0094.  
PR 02-MAR-1995; AU-001457.  
PR 20-NOV-1995; AU-006647.  
PR 22-DEC-1995; AU-007274.  
PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
PI Weber G;  
DR WPI: 96-412774/41.  
DR N-PSDB: T13810.  
PT New growth factor related to vascular endothelial growth factor -  
PT useful for inducing astroglial proliferation and promoting neuronal  
PT survival  
PS Example 5; Fig 9; 113pp; English.  
CC VRF167 (W00863) is the murine homologue of an alternatively spliced  
CC variant (W00726) of human vascular endothelial growth factor-like  
CC polypeptide SOM175 (W00725), a protein capable of inducing astroglial  
CC proliferation and of promoting neural survival and/or proliferation.  
CC Its amino acid sequence was deduced from a cDNA clone (T13810)  
CC isolated from a new-born mouse brain cDNA library. VRF167 shows  
CC 85% identity and 92% similarity to its human counterpart. It lacks  
CC 101 amino acids found in VRF186 (W00863), the murine homologue  
CC of SOM175, owing to a deletion of exon 6 during splicing.  
SQ Sequence 188 AA;

Query Match 100.0%; Score 121; DB 19; Length 188;  
Best Local Similarity 100.0%; Pred. No. 6.06e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvgrcgccp 83  
|||||  
QY 69 pscvtvgrcgccp 82

RESULT 7  
ID W00726 standard; Protein; 188 AA.  
AC W00726:  
DT 30-NOV-1996 (first entry)  
DE Vascular endothelial growth factor-like protein SOM175-e6.  
KW Vascular endothelial growth factor; VEGF; SOM175-e6; neuron;  
KW astroglial proliferation.  
OS Homo sapiens.  
FH Key  
FT peptide 1..21  
FT peptide /label= sig\_peptide  
PN W09627007-A1.  
PD 06-SEP-1996.  
PF 22-FEB-1996; AU0094.  
PR 02-MAR-1995; AU-001457.  
PR 20-NOV-1995; AU-006647.  
PR 22-DEC-1995; AU-007274.  
PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
PI Weber G;  
DR WPI: 96-412774/41.  
DR N-PSDB: T33611.  
PT New growth factor related to vascular endothelial growth factor -

PT useful for inducing astroglial proliferation and promoting neuronal survival  
PS Claim 12: Page 42-43; 113pp; English.  
CC Splice variants (W00726-28) of the human vascular endothelial growth factor-like polypeptide SOM175 (see also W00725) are products of CC CDNA clones (see also T33611-13) respectively lacking exon 6, exons CC 6+7, and exon 4 of the SOM175 gene (see also T33610). They show at CC least 1 of the properties of SOM175 including the ability to induce CC proliferation of vascular endothelial cells, to interact with CC flt-1/flk-1 receptors, and to induce cell migration, cell survival CC and/or an increase in intracellular levels of alkaline phosphatase. CC Recombinant SOM175 proteins can be used to induce astroglial CC proliferation and to promote neural survival and/or proliferation. CC Sequence 188 AA:

Query Match 100.0%; Score 121; DB 19; Length 188;  
Best Local Similarity 100.0%; Pred. No. 6,06e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvqrcgscp 83  
| | | | | | | | | |  
QY 69 pscvtvqrcgscp 82

RESULT 8  
ID W04826 standard; Protein: 188 AA.  
AC W04826;  
DT 28-APR-1997 (first entry)  
DE Heart vascular endothelial growth factor-B167.  
KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
KW embryonic development; wound healing; tissue reorganisation; antibody;  
KW cancer; metastatic risk; tumour cell; mouse.  
OS Mus musculus.  
PN W09626736-A1.  
PD 06-SEP-1996.  
PF 01-MAR-1996; U02957.  
PR 01-MAR-1995; US-397651.  
PR 06-JUN-1995; US-469427.  
PR 06-DEC-1995; US-569063.  
PA (LUDW-) LUDWIG INST CANCER RES.  
PI (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
PI Allitalo K, Eriksson U, Olofsson B, Pajusola K;  
DR WPI: 96-412582/41.  
DR N-PSDB: T37910.  
PT Vascular endothelial growth factor VEGF-B proteins - useful to  
PT accelerate angiogenesis in wound healing, also related nucleic acid  
PS Claim 18: Page 55-56; 107pp; English.  
CC W04824-W04831 represent the vascular endothelial or mesodermal cell  
CC proteins of the invention, which promote endothelial or mesodermal cell  
CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
CC diverse effects, depending on the specific biological context in which it  
CC is found. VEGF is a potent endothelial cell mitogen, and directly  
CC contributes to induction of angiogenesis in vivo by promoting endothelial  
CC cell growth during normal embryonic development, wound healing, and  
CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
CC share the angiogenic and other properties of VEGF, but are distributed  
CC and expressed in tissues differently to VEGF. The proteins can therefore  
CC be used to accelerate angiogenesis in wound healing. Antibodies against  
CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
CC complementary to the coding sequences for the proteins of the invention  
CC can also be used to detect VEGF-B coding sequences. Quantification of  
CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
CC metastatic risk. VEGF-B expression in a cell can be retarded using  
CC antisense sequences direct against the VEGF coding sequences, this is  
CC especially useful in retarding VEGF expression in tumour cells.  
SO Sequence 188 AA:

Query Match 100.0%; Score 121; DB 21; Length 188;

Best Local Similarity 100.0%; Pred. No. 6,06e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvqrcgscp 83  
| | | | | | | | | |  
QY 69 pscvtvqrcgscp 82

RESULT 9  
ID W04827 standard; Protein: 195 AA.  
AC W04827;  
DT 28-APR-1997 (first entry)  
DE Heart vascular endothelial growth factor-B174.  
KW Endothelial cell; proliferation; vascular endothelial growth factor; VPF;  
KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
KW embryonic development; wound healing; tissue reorganisation; antibody;  
KW cancer; metastatic risk; tumour cell; mouse.  
OS Mus musculus.  
PN W09626736-A1.  
PD 06-SEP-1996.  
PF 01-MAR-1996; U02957.  
PR 01-MAR-1995; US-397651.  
PR 06-JUN-1995; US-469427.  
PR 06-DEC-1995; US-569063.  
PA (LUDW-) LUDWIG INST CANCER RES.  
PI (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
PI Allitalo K, Eriksson U, Olofsson B, Pajusola K;  
DR WPI: 96-412582/41.  
DR N-PSDB: T37911.  
PT Vascular endothelial growth factor VEGF-B proteins - useful to  
PT accelerate angiogenesis in wound healing, also related nucleic acid  
PS Claim 18: Page 56-57; 107pp; English.  
CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
CC proteins of the invention, which promote endothelial or mesodermal cell  
CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
CC diverse effects, depending on the specific biological context in which it  
CC is found. VEGF is a potent endothelial cell mitogen, and directly  
CC contributes to induction of angiogenesis in vivo by promoting endothelial  
CC cell growth during normal embryonic development, wound healing, and  
CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
CC share the angiogenic and other properties of VEGF, but are distributed  
CC and expressed in tissues differently to VEGF. The proteins can therefore  
CC be used to accelerate angiogenesis in wound healing. Antibodies against  
CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
CC complementary to the coding sequences for the proteins of the invention  
CC can also be used to detect VEGF-B coding sequences. Quantification of  
CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
CC metastatic risk. VEGF-B expression in a cell can be retarded using  
CC antisense sequences direct against the VEGF coding sequences, this is  
CC especially useful in retarding VEGF expression in tumour cells.  
SO Sequence 195 AA:

Query Match 100.0%; Score 121; DB 21; Length 195;  
Best Local Similarity 100.0%; Pred. No. 6,06e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvqrcgscp 83  
| | | | | | | | | |  
QY 69 pscvtvqrcgscp 82

RESULT 10  
ID W00863 standard; Protein: 207 AA.  
AC W00863;  
DT 30-NOV-1996 (first entry)  
DE Murine VRF186.  
KW VRF; vascular endothelial growth factor; VEGF; SOM175; neuron;  
KW astroglial proliferation.  
OS Mus musculus.



FT Key Location/Qualifiers  
 FT Peptide 1..21  
 PN W0627007-A1. /Label= sig\_peptide  
 PD 06-SEP-1996.  
 PR 22-FEB-1996: AU0094.  
 PR 02-MAR-1995: AU-001457.  
 PR 20-NOV-1995: AU-006647.  
 PR 22-DEC-1995: AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M.  
 PI Weber G.  
 DR WPI: 96-412774/41.  
 DR N-PSDB: T13809.  
 PT New growth factor related to vascular endothelial growth factor -  
 PT useful for inducing astroglial proliferation and promoting neuronal  
 PT survival.  
 PS Example 5: Fig 9; 113pp; English.  
 CC VRF16 (W00863) is the murine homologue of human vascular endothelial  
 CC growth factor (W00725), a protein capable of  
 CC inducing astroglial proliferation and of promoting neural survival  
 CC and/or proliferation. Its amino acid sequence was deduced from a  
 CC cDNA clone (T13809) isolated from a new-born mouse brain cDNA  
 CC library. An alternatively spliced variant, VRF169 (W00864), was  
 CC also identified.  
 SQ Sequence 207 AA;

Query Match 100.0%; Score 121; DB 19; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 6.06e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvgrcgccp 83  
 |||||||  
 Qy 69 PSCVTVGRCGCCP 82

RESULT 11  
 ID W00725 standard; Protein: 207 AA.  
 AC W00725:  
 DT 30-NOV-1996 (first entry)  
 DE Vascular endothelial growth factor-like protein SOM175.  
 KW Vascular endothelial growth factor; VEGF; VEGF165; SOM175; neuron;  
 OS Homo sapiens.  
 FH Key Location/Qualifiers  
 FT Peptide 1..21  
 FT W0627007-A1. /Label= sig\_peptide  
 PN W0627007-A1.  
 PD 06-SEP-1996.  
 PR 22-FEB-1996: AU0094.  
 PR 02-MAR-1995: AU-001457.  
 PR 20-NOV-1995: AU-006647.  
 PR 22-DEC-1995: AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M.  
 PI Weber G.  
 DR WPI: 96-412774/41.  
 DR N-PSDB: T13610.  
 PT New growth factor related to vascular endothelial growth factor -  
 PT useful for inducing astroglial proliferation and promoting neuronal  
 PT survival.  
 PS Claim 11: Page 41; 113pp; English.  
 CC Human vascular endothelial growth factor (VEGF)-like polypeptide  
 CC (W00725) is capable inducing the proliferation of vascular  
 CC endothelial cells, of interacting with flt-1/Flk-1 receptors,  
 CC and of inducing cell migration, cell survival and/or an increase  
 CC in intracellular levels of alkaline phosphatase. It shows 33.3%  
 CC identity with human VEGF (see also W00724). Splice variants  
 CC (W00726-28) of SOM175 have also been identified. Recombinant SOM175  
 CC can be produced in host cells transformed with vectors carrying  
 CC SOM175 cDNA (see also T13610). It is useful for inducing astroglial  
 CC proliferation and for promoting neural survival and/or proliferation.  
 SQ Sequence 207 AA;

Query Match 100.0%; Score 121; DB 19; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 6.06e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvgrcgccp 83  
 |||||||  
 Qy 69 PSCVTVGRCGCCP 82

RESULT 12  
 ID W04831 standard; Protein: 207 AA.  
 AC W04831:  
 DT 28-APR-1997 (first entry)  
 DE Vascular endothelial growth factor-B186.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VPF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse.  
 OS Homo sapiens.  
 PN W0626736-A1.  
 PD 06-SEP-1996.  
 PR 01-MAR-1996: U02957.  
 PR 01-MAR-1995: US-397651.  
 PR 06-JUN-1995: US-469427.  
 PR 06-DEC-1995: US-569063.  
 PA (LUDM-) LUDMIG INSR CANCER RES.  
 PA (VYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Aitalo K, Eriksson U, Olofsson B, Pajusola K.  
 PI WPI: 96-412582/41.  
 DR N-PSDB: T13915.  
 DR WPI: 96-412582/41.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Claim 18: Page 62; 107pp; English.  
 CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
 CC proteins of the invention, which promote endothelial or mesodermal cell  
 CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
 CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
 CC diverse effects, depending on the specific biological context in which it  
 CC is found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothelial  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences directed against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SQ Sequence 207 AA;

Query Match 100.0%; Score 121; DB 21; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 6.06e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvgrcgccp 83  
 |||||||  
 Qy 69 PSCVTVGRCGCCP 82

RESULT 13  
 ID W04830 standard; Protein: 207 AA.  
 AC W04830:  
 DT 28-APR-1997 (first entry)  
 DE Vascular endothelial growth factor-B186.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VPF;

KW VEGF: endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse.  
 OS Mus musculus.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PR 01-MAR-1996: U02957.  
 PR 01-MAR-1995: US-397651.  
 PR 06-JUN-1995: US-469427.  
 PR 06-DEC-1995: US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alitalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 DR N-PSDB: T37914.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PS and antibodies for cancer diagnosis.  
 PS Claim 18: Page 60-61: 107pp; English.  
 CC W04824-W04831 represent the vascular endothelial growth factor (VEGF)  
 CC proteins of the invention, which promote endothelial or mesodermal cell  
 CC proliferation. VEGF is also a glycosylated cationic dimer, and is  
 CC sometimes referred to as vascular permeability factor (VPF). VEGF has  
 CC diverse effects, depending on the specific biological context in which it  
 CC is found. VEGF is a potent endothelial cell mitogen, and directly  
 CC contributes to induction of angiogenesis in vivo by promoting endothelial  
 CC cell growth during normal embryonic development, wound healing, and  
 CC tissue regeneration/reorganisation. The VEGF proteins of the invention  
 CC share the angiogenic and other properties of VEGF, but are distributed  
 CC and expressed in tissues differently to VEGF. The proteins can therefore  
 CC be used to accelerate angiogenesis in wound healing. Antibodies against  
 CC the proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SQ Sequence 207 AA.

Query Match 100.0%; Score 121; DB 21; Length 207;  
 Best Local Similarity 100.0%; Pred. No. 6,06e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 70 pscvtvrggccc 83  
 Oy 69 pscvtvrggccc 82

RESULT 14  
 ID W07611 standard; Protein: 221 AA.  
 AC W07611:  
 DT 01-SEP-1997 (first entry)  
 DE Human vascular endothelial growth factor 3.  
 KW Human vascular endothelial growth factor; hVEGF3; angiogenesis;  
 KW tumour; inflammation; rheumatoid arthritis; diabetic retinopathy;  
 KW psoriasis; bone; periodontium; ligament; antagonist.  
 OS Homo sapiens.  
 FH Key  
 FT Location/Qualifiers  
 FT 69..82  
 FT /label= PDGF/VEGF\_family\_signature  
 FT /note= "conserved PXCXXKXGCGCN motif"  
 PN W09639421-A1.  
 PD 12-DEC-1996.  
 PD 06-JUN-1995: U07283.  
 PR 06-JUN-1995: WO-007283.  
 PR (HUMA-) HUMAN GENOME SCI INC.  
 PA Olsen H, Rosen CA, Hu JS;  
 DR WPI: 97-043056/04.  
 DR N-PSDB: T44071.  
 PT DNA encoding human vascular endothelial growth factor 3 - useful to

PT develop prods. for, e.g. stimulating angiogenesis or treating  
 PT tumours, inflammation or rheumatoid arthritis  
 PS Claim 11, Page 44: 56pp; English.  
 CC This sequence is that of human vascular endothelial growth factor 3  
 CC (VEGF3). The growth factor can be used to stimulate angiogenesis and  
 CC wound healing, and to promote vascular tissue repair. It can also be  
 CC used to induce the growth of damaged bone, periodontium or ligament  
 CC tissue. VEGF3 antagonists can be used to inhibit tumour growth, or to  
 CC treat diabetic retinopathy, inflammation, rheumatoid arthritis or  
 CC psoriasis. VEGF3 is structurally related to the PDGF/VEGF family  
 CC and it includes the conserved signature motif for the family (see  
 CC features table).  
 SQ Sequence 221 AA.

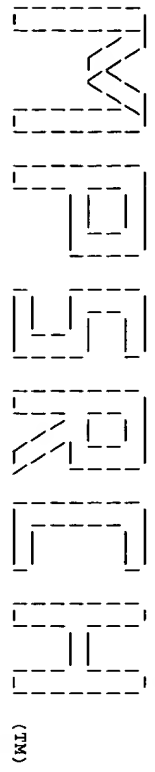
Query Match 100.0%; Score 121; DB 23; Length 221;  
 Best Local Similarity 100.0%; Pred. No. 6,06e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 pscvtvrggccc 82  
 Oy 69 pscvtvrggccc 82

RESULT 15  
 ID W14894 standard; Protein: 620 AA.  
 AC W14894:  
 DT 05-JUL-1997 (first entry)  
 DE Human c-Fos induced growth factor (clone HF175 ORF2 product).  
 KW c-Fos induced growth factor; FGF; Fos regulated gene;  
 KW proto-oncogene; lung disorder; cancer; tumour; therapy;  
 KW antibody; transgenic animal.  
 OS Homo sapiens.  
 FH Key  
 FT Location/Qualifiers  
 FT misc\_difference 16  
 FT /note= "residue 16 corresponds to an in-frame  
 FT stop codon in reading frame 2 of HF175"  
 FT misc\_difference 26  
 FT /note= "residue 26 corresponds to an in-frame  
 FT stop codon in reading frame 2 of HF175"  
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 FT /note= "residue 29 corresponds to an in-frame  
 FT stop codon in reading frame 2 of HF175"  
 FT misc\_difference 47  
 FT /note= "residue 47 corresponds to an in-frame  
 FT stop codon in reading frame 2 of HF175"  
 FT misc\_difference 71  
 FT /note= "residue 71 corresponds to an in-frame  
 FT stop codon in reading frame 2 of HF175"  
 FT misc\_difference 72  
 FT /note= "residue 72 corresponds to an in-frame  
 FT stop codon in reading frame 2 of HF175"  
 FT misc\_difference 76  
 FT /note= "residue translated from ORF2 of HF175  
 FT is Ile"  
 FT misc\_difference 136  
 FT /note= "residue translated from ORF2 of HF175  
 FT is Ile"  
 FT misc\_difference 220  
 FT /note= "residue translated from ORF2 of HF175  
 FT is Phe"  
 FT misc\_difference 341  
 FT /note= "residue translated from ORF2 of HF175  
 FT is His"  
 FT misc\_difference 344  
 FT /note= "residue translated from ORF2 of HF175  
 FT is Phe"  
 FT misc\_difference 377  
 FT /note= "residue translated from ORF2 of HF175  
 FT is Leu"  
 FT misc\_difference 435  
 FT /note= "residue translated from ORF2 of HF175  
 FT stop codon in reading frame 2 of HF175"  
 FT misc\_difference 486



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Mparch\_n n.a. - n.a. database search, using Smith-Waterman algorithm

Run on: Tue Dec 1 11:43:00 1998; MasPar time 893.19 Seconds

Tabular output not generated. 1335.277 Million cell updates/sec

Title: >US-09-033-662-1  
Description: (1-666) from US09033662.seq  
Perfect Score: 666  
N.A. Sequence: 1 ATGAGAGGTGTAGATAG.....GCCGAGCTGCGAGGTGA 666  
Comp: TACTCTTCACATCTTATTC.....CGCCTTGAGCCTTCACAT

Scoring table: TABLE default  
Gap 6

Nmatch STD : Dbase 0: Query 0

Searched: 2275026 seqs, 895388244 bases x 2

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database: emb1-est55  
1:em-est1 2:em-gss1 3:em-gss2 4:em-gss3  
Database: genbank-est107  
5:gb-est1 6:gb-est10 7:gb-est11 8:gb-est12 9:gb-est13  
10:gb-est14 11:gb-est15 12:gb-est16 13:gb-est17  
14:gb-est18 15:gb-est19 16:gb-est20 17:gb-est21  
18:gb-est22 19:gb-est23 20:gb-est24 21:gb-est25 22:gb-est26  
23:gb-est27 24:gb-est28 25:gb-est29 26:gb-est30 27:gb-est31  
28:gb-est32 29:gb-est33

Statistics: Mean 10.628; Variance 2.514; scale 4.228

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description	Pred. No.
1	401	60.2	445	8	AA292448	0.00e+00
2	373	56.0	415	24	AA310070	0.00e+00
3	292	43.8	531	6	AA434485	0.00e+00
4	283	38.0	389	18	AA174183	0.00e+00
5	221	33.2	341	16	H39505	0.00e+00
6	218	32.7	312	16	R90829	0.00e+00
7	209	31.4	491	16	AA155033	0.00e+00
8	192	28.8	410	17	AA117413	4.53e-273
9	161	24.2	423	23	AA073660	1.66e-219
10	154	23.1	553	1	AA082818	1.68e-207
11	132	19.8	523	21	AA040843	4.84e-170
12	121	18.2	374	22	AA182397	1.68e-151
13	120	18.0	231	23	AA117672	8.00e-150

14	118	17.7	225	5	T08411	EST06302 Homo sapiens	1.80e-146
15	116	17.4	565	10	AA633535	np66d06.s1 NCI_CGAP_Br	4.00e-143
16	112	16.8	118	10	AA191903	ov51f06.s1 Soares ovar	1.90e-136
17	109	16.4	566	18	AA141331	ak08g12.s1 Soares para	1.86e-131
18	81	12.2	502	13	AA843665	0168h05.s1 NCI_CGAP_Ki	1.08e-95
19	76	11.4	88	15	AA917955	z33db07.s1 NCI_CGAP_Ki	1.07e-91
20	74	11.1	493	3	AA434389	ym95c03.s1 Soares ovar	1.47e-74
21	66	9.9	297	16	R88630	ym94h03.s1 Homo sapien	4.79e-63
22	66	9.9	381	12	AA073557	ob29c01.s1 NCI_CGAP_Ki	2.02e-57
23	63	9.5	490	12	AA741539	97SN1787 Rice Immature	8.34e-47
24	56	8.4	252	12	AA754459	97SN1787 Rice Immature	8.34e-47
25	56	8.4	252	12	AA754459	97SN1787 Rice Immature	8.34e-47
26	53	8.0	469	13	AA843530	ak08b11.s1 Soares para	2.42e-42
27	52	7.8	447	12	AA754458	97SN1784 Rice Immature	7.23e-41
28	51	7.7	210	7	AA510867	vh55d06.s1 Soares mous	2.13e-35
29	48	7.2	247	12	AA754458	97SN1784 Rice Immature	4.85e-35
30	47	7.1	289	20	N87395	L3711F Fetal heart, La	1.33e-33
31	45	6.8	283	8	AA491141	aa48e07.s1 NCI_CGAP_GC	9.34e-31
32	43	6.5	281	8	AA252383	z513b04.s1 NCI_CGAP_GC	6.04e-28
33	43	6.5	284	8	AA284431	z559d08.s1 NCI_CGAP_GC	6.04e-28
34	43	6.5	301	8	AA252749	z528b07.s1 NCI_CGAP_GC	6.04e-28
35	43	6.5	326	8	AA259024	z535d11.s1 NCI_CGAP_GC	6.04e-28
36	43	6.5	426	8	AA465305	aa24b04.s1 NCI_CGAP_GC	6.04e-28
37	42	6.3	231	9	AA568606	nm21d08.s1 NCI_CGAP_CO	1.48e-26
38	41	6.2	171	13	AA809010	nv31e11.s1 NCI_CGAP_Br	3.56e-25
39	41	6.2	301	18	AA186160	qe45b11.s1 Soares feta	3.56e-25
40	41	6.2	320	11	AA290917	z544b05.s1 NCI_CGAP_GC	3.56e-25
41	40	6.0	149	11	AA703302	EST0002 Human Fetal Br	8.31e-24
42	40	6.0	321	11	AA663755	ae66f05.s1 Stratagene	8.31e-24
43	39	5.9	285	10	AA612827	nq26h07.s1 NCI_CGAP_CO	1.89e-22
44	39	5.9	303	8	AA252684	z526d02.s1 NCI_CGAP_GC	1.89e-22
45	39	5.9	611	14	AA799651	EST189148 Normalized r	1.89e-22

ALIGNMENTS

RESULT 1  
LOCUS AA292448 445 bp mRNA EST 08-AUG-1997  
DEFINITION zt29f01.r1 Soares ovary tumor NBH07 Homo sapiens cDNA clone 723769  
5' similar to TR:G1216396 G1216396 VEGF RELATED FACTOR ISORORM  
VF186 PRECURSOR. ; mRNA sequence.

ACCESSION  
AA292448  
NID  
KEYWORDS  
SOURCE  
ORGANISM

Homo sapiens  
Eukaryota; Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Euthera; Primates; Catarrhini; Homidae; Homo.

REFERENCE  
AUTHORS

Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M., Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, M., Parsons, D., Rifkin, B., Rohlfing, T., Tan, F., Trevaskis, E., Waterston, R., Williamson, A., Woldmann, P. and Wilson, R.  
WashU-Merck EST Project  
Unpublished (1995)

TITLE  
JOURNAL  
COMMENT

Contact: Wilson RK  
Washington University School of Medicine  
444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810  
Email: est@wustl.edu  
This clone is available royalty-free through LNL; contact the IMAGE Consortium (info@image.lln.gov) for further information.  
Insert Length: 941 Std Error: 0.00  
Seq primer: -26ml3 rev2 ET from Amersham  
High quality sequence stop: 425.  
Location/Qualifiers  
1. 445  
/organism="Homo sapiens"  
/note="Organ: Vector: pT73D (Pharmacia) with a modified polylinker; Site\_1: Not I; Site\_2: Eco RI; ..."

FEATURES  
SOURCE



## FEATURES

### source

BASE COUNT  
ORIGIN

### Best Local Matches

Db 11 G

93 G  
ay

Db 71 G

Qy 153 G

Db 131 C

QY 213 C

QY 393

## RESULT

LOCUS  
DEFINITION

ACCESSION  
NID

**KEYWORDS**  
**SOURCE**

ORGAN 1.5:

## REFERENCE

### AUTHORS

TITLE  
JOURNAL

COMMENT:

## FEATURES

BASE COUN  
ORIGIN

Query M

Best Lo  
Matches

Db	47	CCAGAGCCCCCTGTGCCCCAGTTTATGTGCCCCACG-ACGAGAAAGATGTGCATGGA	105
Oy	53	CCCAAGCCCCCTGTGCTCCAGGCTGTATGCCCCCTGGCCACAGAGAAAGTGGTGTCAATGGA	112
Db	106	TAGAGTTTATGACAGTGCACATATGCCAGGCCAGGAGGAGTGTGTGCTCCCTCATGCATG	165
Oy	113	TAGATGTGTATTACTGCGCCTTACTGTCCAGCCCCGGGAGGTGTGTGTCCTTAACTGTGG	172
Db	156	AACTCATGGGCAATGTGTCTAAACAACTAGTGCCACATGTGTGACTGTGCACGCGTGTG	225
Oy	173	AGCTCATGGGCAACCGGTGCCAAACAGCGGTGTGCCACTGTGTGACTGTGCACGCGTGTG	232
Db	226	GTGCGTGTGCTGCCCTTGACAGTGTGCGTGGAAATGTGTGCCACTGTGCGAA-CACCAAGTCGGA	284
Oy	233	GTGTGTGTGCTGCCCTTGACAGTGTGCGTGGAAATGTGTGCCACTGTGCGAAGCACCAAGTCCGGA	292
Db	285	TGCAGATCCCTATATCCAGTACCCGAGCAGTCAAGTGTGGGGGAGATGTCC-TGGAAAGAC	343
Oy	293	TGCAGATCCCTATATATCCGATCCGAGTCCGAGCAGTCAAGTGTGGGGGAGATGTCCCTGGAAGAC	352
Db	344	ACACGCAATGTGATGCAGACCAAAAAAAGAGAGATGTGCTGGAA	389
Oy	353	ACAGCCAGTGTGATGCAGACCTAAAAAAGAGAGATGTGCTGTGGA	398

RESULT	5			EST	
LOCUS	H39505	341 bp	mRNA		16-AUG-1995
DEFINITION	Y05441.1	Homo sapiens	CDNA clone	181724	5'
ACCESSION	H39505				
NID	G915581				
KEYWORDS	EST				
SOURCE	human clone=181724	library=Scars	breast 3nBst	vector=DT7n3	

**SOURCE** human clone-181/24 library-Soures breast 3bNb8t vector-PT73D (Pharmacia) with a modified polylinker host-DH10B (ampicillin resistant) primer-M13RP1. RstII-Not I RstII2-Eco RI Adult human. 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGTAAGTGAGGAGCGCCCTTTTCTTTTCTTTT 3'], double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of a modified pTV73 vector (Pharmacia). Library went through one round of normalization to a Cot = 20. Library constructed by Bento Soares and M.Fátima Bonafide.

ORGANISM  
Homo sapiens  
Eukaryotae: Metazoa: Eumetazoa: Bilateria: Coelomata:  
Neuterostomia: Chordata: Vertebrata: Gnatostomata; Osteichthyes  
Sarcopterygii: Choanata: Tetrapoda: Amniota: Mammalia: Theria:  
Eutheria: Archonta: Primates: Catarrhini; Homiidae: Homo.  
1 (cases 1 to 341)  
REFERENCE  
Hillier, L., Clark, N., Duboucq, T., Elliston, K., Hawkins, M.,

TITLE	COMMENT
The Washu-Merck EST Project Unpublished (1995)	

Contact: Wilson RK  
 WashU-Merck EST Project  
 Washington University School of Medicine  
 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
 Tel: 314 286 1800  
 Fax: 314 286 1810  
 Email: est@watson.wustl.edu  
 High quality sequence stops: 314  
 Source: IMAGE Consortium, LLNL  
 This clone is available royalty-free through LLNL ; contact the  
 IMAGE Consortium ([info@image.llnl.gov](mailto:info@image.llnl.gov)) for further information.  
 Location/Qualifiers  
 1..341  
 source

source	1. .341	/organism="Homo sapiens"	/clone="181724"
BASE COUNT	65 a	133 c	87 g
ORIGIN			50 t
			6 others

Query Match	33.2%	Score 221	DB 16	Length 341
Best Local Similarity	96.0%	Pred. No. 0.00e+00		
Matches 245	Conservative	0	Mismatches 7	Indels 3
			Gaps	
Db	3	ACTCCCAACCAACGGTCCCAAGCCCCGTTGTGTCCGGGCTGGAGACTGTGCCCCCGGAGC	02	
QY	415	ACTCCCAACCAACCG-TCCCAAGCCCCGTTCTGTTCGGGCTGGAGACTGTGCCCCCGGAGC	473	
Db	63	ACCCCTCCCAAGCTGACATCAACCCA-TCCCACTCCAGCCCCAGGGCCCTGTGCCACGCTG	121	
QY	474	ACCCCTCCCAAGCTGACATCAACCCAATCCCACTCCAGCCCCAGGGCCCTGTGCCACGCTG	533	
Db	122	CACCAAGANANACCAAGCGCCCTGACACCCCGGAGCTGCCGCTGCCGCTGCCAGACGCCGAC	181	
QY	534	CACCAAGACACCAAGTGCCTTGACCCCGGAGCTGCCGCTGCCGCTGTGAGAGGCCGAC	593	
Db	182	CTTCTCTCCGTTGCCAAGGG-GGGGCTTAGAGCTAACCCAGACACTGCAGGTCCNGAA	240	
QY	594	CTTCTCTCCGTTGCCAAGGGGGGCTTAGAGCTAACCCAGACACTGCAGGTCCGGA	653	
Db	241	GCTGCGAAGGTGA	253	
QY	654	GCTGCGAAGGTGA	666	

RESULT	6	312 bp	mRNA	EST	25-AUG-1995
LOCUS	R90829				
DEFINITION	Yn02G09.r1 Homo sapiens cDNA clone 167296 5'				
ACCESSION	R90829				
NID	9958369				
KEYWORDS	EST.				
SOURCE	human clone-167296 library=Soares adult brain N24AB55Y				

[illegible]

ORGANISM	REFERENCE
Homo sapiens	1 (bases 1 to 312)
Eukaryotes: Metazoa; Eumetazoa; Bilateria: Coelomata; Deuterostomata; Chordata; Vertebrata; Gnathostomata; Osteichthyes; Sarcopterygii; Chonata; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Archonta; Primates; Catarrhini; Hominoidea; Homo.	

TITLE	COMMENT
The WashU-Merck EST Project Unpublished (1995)	

Contact: Wilson RK  
WashU-Merck EST Project  
Washington University School of Medicine  
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810  
Email: est@watson.wustl.edu  
High quality sequence stops: 207  
Source: IMAGE Consortium, LNL  
This clone is available royalty-free through LNL; contact lna



IMAGE Consortium (info@image.llnl.gov) for further information.

# FEATURES

Location/Qualifiers  
1. .312  
/organism="Homo sapiens"  
/clone="167296"

BASE COUNT 56 a 120 c 85 g 48 t 3 others

## ORIGIN

Query Match 32.7%: Score 218; DB 16; Length 312;  
Best Local Similarity 97.5%: Pred. No. 0.00e+00;  
Matches 233; Conservative 0; Mismatches 4; Indels 2; Gaps 2;

Db 1 GTCCCAAGCCCGCTGTTCTCCGGGCTGGAGCTGCCCCCGAGACACCTCCCACTG 60  
OY GTCCCAAGCCCGCTGTTCTCCGGGCTGGAGCTGCCCCCGAGACACCTCCCACTG 487  
Db 61 ACATCAACCA-TCCCACTCCAGCCCGAGCCCTCTGCCCCAGCTGCACACCAACAC 119  
OY 488 ACATCAACCAATCCCACTCCAGCCCGAGCCCTCTGCCCCAGCTGCACACCAACAC 547  
Db 120 AGGCGCTGACCCCGGAGCTGCGCTGCGACGCGACGCGAGCTTCTCCGTTGCG 179  
OY 548 AGTGCCTGACCCCGGAGCTGCGCTGCGACGCGAGCTTCTCCGTTGCTC 607  
Db 180 AAGGG-GGGGCTTAGAGCTCAACCCAGACACCTGAGTGGCGGAGCTGGAAGTGA 237  
OY 608 AAGGGCGGGGCTTAGAGCTCAACCCAGACACCTGAGTGGCGGAGCTGGAAGTGA 666

RESULT 7  
LOCUS A1155033 491 bp mRNA EST 30-SEP-1998  
DEFINITION ub78b11.r1 Soares mouse mammary gland NMLMG Mus musculus cDNA clone  
1476957.5, similar to TR:064290 064290 VASCULAR ENDOTHELIAL GROWTH  
FACTOR RELATED PROTEIN ;, mRNA sequence.

ACCESSION A1155033  
NID 93683502  
KEYWORDS EST.  
SOURCE house mouse.  
ORGANISM Mus musculus.  
Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria;  
Rodentia; Sciurognathi; Muridae; Murinae; Mus.

REFERENCE 1 (bases 1 to 491)  
AUTHORS Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuque,T.,  
Geisel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M.,  
Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B.,  
Theising,B., Wylie,T., Lennon,G., Soares,B., Wilson,R. and  
Waterston,R.

TITLE The WashU-HMI Mouse EST Project  
JOURNAL Unpublished (1996)  
COMMENT

Contact: Maria M/Mouse EST Project  
WashU-HMI Mouse EST Project  
Washington University School of Medicine  
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810

Email: mouseest@wustl.edu  
This clone is available royalty-free through LNL; contact the  
IMAGE Consortium (info@image.llnl.gov) for further information.  
MGI:925313  
Seq primer: -28ml3 rev2 ET from Amersham.

## FEATURES

Location/Qualifiers  
1. .491

/organism="Mus musculus"  
/note="Vector: pT73D-Pac (Pharmacia) with a modified  
polylinker: 1st strand cDNA was prepared from mammary  
gland tissue from a lactating female, and was then primed  
with a Not I - oligo(dT) primer. Double-stranded cDNA was  
ligated to Eco RI adaptors (Pharmacia), digested with Not  
I and cloned into the Not I and Eco RI sites of the  
modified pT73 vector. Library is normalized. Library  
was constructed by Bento Soares and M. Fatima Bonaldo."

/db\_xref="taxon:10090"

/clone="1476957"

/clone\_lib="Soares mouse mammary gland NMLMG"

/sex="female (lactating)"

/tissue\_type="mammary gland"

/lab\_host="DH10B"

BASE COUNT 93 a 182 c 124 g 91 t 1 others

## ORIGIN

Query Match 31.4%: Score 209; DB 18; Length 491;  
Best Local Similarity 88.7%: Pred. No. 0.00e+00;  
Matches 250; Conservative 0; Mismatches 30; Indels 2; Gaps 2;

Db 1 GAGAGTGTCTGGA-CCAGACAGGTTGCCATACCCACACCGTCCAGCCCGCTCT 59  
OY 385 GACAGTCTGTGAAGCAGACAGAGGCTGTATCTCCACACACCGTCCAGCCCGCTCT 444  
Db 60 GTTCCGGGCTGGAGCTTACCCCGGAGCATCTCTCCCACTACATATCA-TCCAC 118  
OY 445 GTTCCGGGCTGGAGCTTACCCCGGAGCATCTCTCCCACTACATATCAATCCAC 504  
Db 119 TCCAGCCCGAGGAGCTCTCCCGCTTGCACCGAGCGGTGACAGCCCTGACCCCGG 178  
OY 505 TCCAGCCCGAGGAGCTCTCCCGCTTGCACCGAGCGGTGACAGCCCTGACCCCGG 544  
Db 179 ACCTGCGCTGCGCTGTCAGACGCGCGCTCTCTCTCATTCGCAAGCGGCGTTAGAG 238  
OY 565 ACCTGCGCTGCGCTGTCAGACGCGCGCTCTCTCTCATTCGTTGTCAGAGGCGGCTTAGAG 644  
Db 239 CTCACCCAGACACCTGTAGTCCGAGACCGCGGAAGTGA 280  
OY 625 CTCACCCAGACACCTGTAGTCCGAGACCGCGGAAGTGA 666

RESULT 8  
LOCUS A117413 410 bp mRNA EST 02-SEP-1998  
DEFINITION ub78g01.r1 Soares mouse mammary gland NMLMG Mus musculus cDNA clone  
1383888.5, similar to TR:064290 064290 VASCULAR ENDOTHELIAL GROWTH  
FACTOR RELATED PROTEIN ;, mRNA sequence.

ACCESSION A117413  
NID 93517737  
KEYWORDS EST.  
SOURCE house mouse.  
ORGANISM Mus musculus.  
Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria;  
Rodentia; Sciurognathi; Muridae; Murinae; Mus.

REFERENCE 1 (bases 1 to 410)  
AUTHORS Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuque,T.,  
Geisel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M.,  
Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B.,  
Theising,B., Wylie,T., Lennon,G., Soares,B., Wilson,R. and  
Waterston,R.

TITLE The WashU-HMI Mouse EST Project  
JOURNAL Unpublished (1996)  
COMMENT

Contact: Maria M/Mouse EST Project  
WashU-HMI Mouse EST Project  
Washington University School of Medicine  
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810

Email: mouseest@wustl.edu  
This clone is available royalty-free through LNL; contact the  
IMAGE Consortium (info@image.llnl.gov) for further information.  
MGI:906356  
Seq primer: -28ml3 rev2 ET from Amersham

## FEATURES

source

/organism="Mus musculus"  
/note="Vector: pT73D-Pac (Pharmacia) with a modified  
polylinker: 1st strand cDNA was prepared from mammary  
gland tissue from a lactating female, and was then primed



IMAGE Consortium (info@image.llnl.gov) for further information.  
Seq primer: -28M13 rev2 from Amersham  
High quality sequence stop: 378.  
Location/Qualifiers

## FEATURES

source

1. 553

/organism="Homo sapiens"

/note="Vector: pBluescript SK-; Site.1: EcoRI; Site.2: XhoI; Cloned unidirectionally. Primer: Oligo dt. NT2 (Ntera-2/c1.D1) precursor cells induced with Retinoid Acid for 1 week, followed by 3 weeks in mitotic inhibitors (Replate #2). Average insert size: 1.1 kb: Uni-ZAP XR Vector: -5' adaptor sequence: 5' GAATTCGGCAGAG 3' -3' adaptor sequence: 3' CTCGAGTTTCTTTTCTTTT 3'."

/db\_xref="GDB:3926965"

/db\_xref="taxon:9606"

/clone="548449"

/clone\_1lb="Stratagene neuroepithelium NT2RAMI 937234"

/dev\_stage="Ntera-2/RAMi neuroepithelial cells"

/lab\_host="SOLR (kanamycin resistant)"

## BASE COUNT

133 a 173 c 140 g 99 t 8 others

## ORIGIN

Query Match 23.1%; Score 154; DB 11; Length 553;

Best Local Similarity 95.3%; Pred. No. 1,68e-207;

Matches 164; Conservative 0; Mismatches 7; Indels 1; Gaps 1;

Db 2 CCATCCACATCCAGAGCCCGCTCTGCCAGCTGACAGCAGCAGCAGCC 61

Qy 495 CCATCCACATCCAGAGCCCGCTCTGCCAGCTGACAGCAGCAGCAGCC 554

Db 62 TGACCCCGGAGCTGCGCTGCGCGCGAGCGCGGCGGCGGCGGCGGCG 120

Qy 555 TGACCCCGGAGCTGCGCTGCGCGCGAGCGCGGCGGCGGCGGCGGCG 614

Db 121 GGGCTGAGCTCAACCGACCTGCGAGTGGCGGAGCTGCGAGCTGA 172

Qy 615 GGGCTGAGCTCAACCGACCTGCGAGTGGCGGAGCTGCGAGCTGA 666

RESULT 11 AA040843 523 bp mRNA EST 30-AUG-1996

LOCUS 2447H01.F1 Soares pregnant uterus NBHPU Homo sapiens cDNA clone

DEFINITION 466001 5', mRNA sequence.

ACCESSION AA040843

NID G1517139

KEYWORDS EST.

SOURCE human.

ORGANISM Homo sapiens

REFERENCE 1 (bases 1 to 523) Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata; Vertebrata; Eutheria; Primates; Catarrhini; Homiidae; Homo.

AUTHORS Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M., Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, M., Parsons, J., Rifkin, L., Rohlfing, T., Soares, M., Tan, F., Trevisan, E., Waterston, R., Williamson, A., Wohlmann, P. and Wilson, R.

TITLE The WashU-Merck EST Project

COMMENT Unpublished (1995)

CONTACT: Wilson RK

WashU-Merck EST Project

Washington University School of Medicine

4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108

Tel: 314 286 1800

Fax: 314 286 1810

Email: est@wustl.wustl.edu

This clone is available royalty-free through LNL; contact the

IMAGE Consortium (info@image.llnl.gov) for further information.

Seq primer: -28M13 rev2 from Amersham

High quality sequence stop: 314.

Location/Qualifiers

1. 553

/organism="Homo sapiens"

/note="Organ: uterus; Vector: pT7T3-Pac; Site.1: N. Site.2: Eco RI; 1st strand cDNA was primed with a N. Oligo(dt) primer [5' AACTGAGAGATTCGGCGCCGCTTTTCTTTTCTTTT 3'] double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the N. and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization. Library constructed by M. Fatima Bonaldo."

/db\_xref="taxon:9606"

/clone="486001"

/clone\_1lb="Soares pregnant uterus NBHPU"

/sex="female"

/dev\_stage="adult"

/lab\_host="DH10B"

&lt;1. &gt;523

123 a 155 c 136 g 100 t 9 others

BASE COUNT

ORIGIN

## BASE COUNT

123 a 155 c 136 g 100 t 9 others

## ORIGIN

Query Match 19.8%; Score 132; DB 21; Length 523;

Best Local Similarity 95.9%; Pred. No. 4.84e-170;

Matches 141; Conservative 0; Mismatches 5; Indels 1; Gaps 1;

Db 1 CTCTGCCNACGCTGACCCAGACACACAGCGCCCTGACCCCGGAGCTCCGTCGCCG 60

Qy 520 CTCTGCCNACGCTGACCCAGACACACAGCGCCCTGACCCCGGAGCTCCGTCGCCG 579

Db 61 TGCGAGCGCGGAGCTGCTCCGCTGCGAGAGN-GGGGCTTGAAGCTCAACCGACAGC 119

Qy 580 TGCGAGCGCGGAGCTGCTCCGCTGCGAGAGGCGGGGCTTGAAGCTCAACCGACAGC 639

Db 120 TGCAGGTGCCGGAAGCTGCGAAGTGA 146

Qy 640 TGCAGGTGCCGGAAGCTGCGAAGTGA 666

RESULT 12 AA182397 374 bp mRNA EST 07-JAN-1997

LOCUS zp36a04.r1 Stratagene muscle 937209 Homo sapiens cDNA clone 611502

DEFINITION 5' similar to TR:G12163398 G1216398 VEF RELATED FACTOR ISOFORM

VAF167 PRECURSOR. ; mRNA sequence.

ACCESSION AA182397

NID G1766080

KEYWORDS EST.

SOURCE human.

ORGANISM Homo sapiens

REFERENCE 1 (bases 1 to 374) Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata; Vertebrata; Eutheria; Primates; Catarrhini; Homiidae; Homo.

AUTHORS Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M., Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, M., Parsons, J., Rifkin, L., Rohlfing, T., Tan, F., Trevisan, E., Waterston, R., Williamson, A., Wohlmann, P. and Wilson, R.

TITLE The WashU-Merck EST Project

COMMENT Unpublished (1995)

CONTACT: Wilson RK

WashU-Merck EST Project

Washington University School of Medicine

4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108

Tel: 314 286 1800

Fax: 314 286 1810

Email: est@wustl.wustl.edu

This clone is available royalty-free through LNL; contact the

IMAGE Consortium (info@image.llnl.gov) for further information.

Seq primer: -28M13 rev2 from Amersham

High quality sequence stop: 237.

Location/Qualifiers

1. 374

/organism="Homo sapiens"

/note="Vector: pBluescript SK-; Site.1: EcoRI; Site.2: XhoI; Cloned unidirectionally. Primer: Oligo dt. Skeletal muscle from patient with malignant hyperthermia. Averu"



DEFINITION np66406.s1 NCI-CGAP-Br2 Homo sapiens CDNA clone IMAGE:1131275  
 Similar to IR:G1216398 G1216398 VEGF RELATED FACTOR ISOFORM VRF167  
 PRECURSOR ; mRNA sequence.  
 ACCESSION AA633535  
 NID 92555395  
 KEYWORDS EST.  
 SOURCE human.  
 ORGANISM Homo sapiens  
 Eukaryotae; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria;  
 Primates; Catarrhini; Homidae; Homo.  
 REFERENCE 1 (bases 1 to 565)  
 AUTHORS NCI-CGAP <http://www.ncbi.nlm.nih.gov/ncicgap>.  
 TITLE National Cancer Institute, Cancer Genome Anatomy Project (CGAP),  
 Tumor Gene Index  
 JOURNAL Unpublished (1997)  
 COMMENT

Contact: Robert Strausberg, Ph.D.  
 Tel: (301) 496-1550  
 Email: Robert.Strausberg@nih.gov  
 Tissue Procurement: Christopher Moskalko, M.D., Ph.D., Michael R.  
 Emmert-Buck, M.D., Ph.D.  
 CDNA Library Preparation: M. Bento Soares, Ph.D.  
 CDNA Library Arrayed by: Greg Lennon, Ph.D.  
 DNA Sequencing by: Washington University Genome Sequencing Center  
 Clone distribution: NCI-CGAP clone distribution information can be  
 found through the I.M.A.G.E. Consortium/LML at:  
[www.bio.llnl.gov/dbp/image/image.html](http://www.bio.llnl.gov/dbp/image/image.html)

Insert Length: 648 Std Error: 0.00  
 Seq primer: -40m13 fwd. ET from Amersham  
 High quality sequence stop: 411.  
 Location/Qualifiers  
 1. 565

/organism="Homo sapiens"  
 /note="Vector: p773D-Pac (Pharmacia) with a modified  
 polylinker; 1st strand cDNA was prepared from pooled bulk  
 breast tumor tissue, and was then primed with a Not I -  
 oligo(dT) primer. Double-stranded cDNA was ligated to Eco  
 RI adaptors (Pharmacia), digested with Not I and cloned  
 into the Not I and Eco RI sites of the modified p773  
 vector. This library is the normalized version of  
 NCI-CGAP-Br1.1. Library was constructed by Bento Soares  
 and M. Fatima Bonaldo."  
 /db\_xref="taxon:9606"  
 /clone="IMAGE:1131275"  
 /clone\_1lb="NCI-CGAP-Br2"  
 /sex="female, pooled"  
 /tissue\_type="breast"  
 /lab\_host="DH10B"

BASE COUNT 103 a 146 c 166 g 150 t  
 ORIGIN

Query Match 17.4% Score 116; DB 10; Length 565;  
 Best Local Similarity 91.4%; Pred. No. 4,00e-143;  
 Matches 128; Conservative 0; Mismatches 12; Indels 0; Gaps 0;

Db 419 TCACCTCGAGCTCCGGACCTGACAGGTGCTGAGCTTAAGCCCTG 478  
 ||||||||||||||||||||||||||||||||||||||||||||  
 Cp 666 TCACCTTCGACGCTTCGGACCTGCGAGTGTGGGTGAGCTTAAGCCCTG 607  
 ||||||||||||||||||||||||||||||||||||||||||||  
 Db 479 GCAACGAGGAACTCGCGCTCGGACGAGTACAGATCCGGGGTCAAGGGCCTT 538  
 ||||||||||||||||||||||||||||||||||||||||||||  
 Cp 606 ACAACGAGGAGAGCTGGGGGTGACAGCGGACGAGTCCGGGGGTCAAGGGCACTG 547  
 ||||||||||||||||||||||||||||||||||||||||||||  
 Db 539 GTGCTCTGGGTGACGCGTG 558  
 ||||||||||||||||||||||||  
 Cp 546 GTGCTCTGGGTGACGCGTG 527  
 ||||||||||||||||||||||||

Search completed: Tue Dec 1 12:22:18 1998  
 Job time : 2358 secs.

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 WISENTH (TM)  
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Msrch\_n n.a. - n.a. database search, using Smith-Waterman algorithm

Run on: Tue Dec 1 12:22:37 1998; Maspar time 99.63 Seconds

Tabular output not generated. 909.455 Million cell updates/sec

Title: >US-09-033-662-1  
 Description: (1-666) From US09033662.seq  
 Perfect Score: 666  
 N.A. Sequence: 1 ATGAGAGGTGTAGATATAG.....GCCGAGCTGCGAGGTGA 666  
 Comp: TACTCTTCACATCTATTTC.....GGCGCTTGAGAGCTTCACAT

Scoring table: TABLE default  
 Gap 6

Nmatch STD : Dbase 0; Query 0

Searched: 188442 seqs, 68026449 bases x 2

Post-processing: Minimum Match 0%  
 Listing first 45 summaries

Database: n-geneseg32  
 1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7  
 8:part8 9:part9 10:part10 11:part11 12:part12 13:part13  
 14:part14 15:part15 16:part16 17:part17 18:part18  
 19:part19 20:part20 21:part21 22:part22 23:part23  
 24:part24 25:part25 26:part26 27:part27 28:part28  
 29:part29 30:part30 31:part31 32:part32 33:part33  
 34:part34 35:part35 36:part36 37:part37 38:part38  
 39:part39 40:part40

Statistics: Mean 8.606; Variance 5.714; scale 1.506

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description	Pred. No.
1	666	100.0	666	31	Human vascular endoth	0.00e+00
2	604	90.7	1094	23	Vascular endothelial	0.00e+00
3	558	83.8	624	28	VEGF-B166 coding sequ	0.00e+00
4	483	72.5	1242	23	Murine VRF186 CDNA.	1.74e-285
5	445	66.8	624	28	VEGF-B166 coding sequ	4.71e-261
6	360	54.1	570	28	Fibrosarcoma VEGF-B16	6.49e-206
7	359	53.9	858	23	Vascular endothelial	2.83e-205
8	338	43.2	993	23	Vascular endothelial	1.29e-160
9	288	43.2	910	23	Vascular endothelial	1.05e-158
10	285	42.8	565	28	Adult heart VEGF-B167	3.66e-156
11	281	42.2	1141	23	Murine VRF157 CDNA.	9.87e-145
12	263	39.5	405	28	VEGF-B12 coding sequ	8.55e-131
13	241	36.2	886	28	Partial VEGF-B coding	8.55e-131

ID	Score	Query Match	Length DB	ID	Description	Pred. No.
14	183	27.5	591	28	Adult heart VEGF-B174	2.76e-94
15	48	7.2	366	2	Human vascular endoth	7.17e-13
16	48	7.2	467	22	VEGF121 Cys+4 coding	7.17e-13
17	48	7.2	473	17	CDNA encoding human v	7.17e-13
18	48	7.2	498	2	Human vascular endoth	7.17e-13
19	48	7.2	576	37	Human vascular endoth	7.17e-13
20	48	7.2	599	22	VEGF165 Cys+4 coding	7.17e-13
21	48	7.2	605	17	CDNA encoding human v	7.17e-13
22	48	7.2	649	23	Vascular endothelial	7.17e-13
23	48	7.2	774	36	Human vascular endoth	7.17e-13
24	48	7.2	774	33	Human vascular endoth	7.17e-13
25	48	7.2	774	33	Antisense inhibitory	7.17e-13
26	48	7.2	774	20	Vascular endothelial	7.17e-13
27	48	7.2	774	39	Human vascular endoth	7.17e-13
28	48	7.2	1167	2	SAP(G14Ser)VEGF121 c	7.17e-13
29	48	7.2	1195	1	Human vascular permen	7.17e-13
30	48	7.2	1220	22	SAP(G14Ser)4VEGF121	7.17e-13
31	48	7.2	1286	22	SAP-AlaMet-VEGF165 co	7.17e-13
32	48	7.2	1395	22	VEGF165-AlaMet-VEGF165	7.17e-13
33	48	7.2	1557	22	SAP(G14Ser)VEGF121(G	7.17e-13
34	48	7.2	1559	22	SAP-AlaMet-VEGF121(G	7.17e-13
35	48	7.2	1649	37	DNA for VEGF/CPG2 fus	7.17e-13
36	48	7.2	1664	37	DNA for VEGF/CPG2 fus	7.17e-13
37	48	7.2	1787	37	DNA for VEGF/CPG2 fus	7.17e-13
38	48	7.2	1787	22	SAP-AlaMet-VEGF165 fus	7.17e-13
39	48	7.2	1790	37	DNA for VEGF/CPG2 fus	7.17e-13
40	48	7.2	1790	37	SAP-AlaMet-VEGF165(G	7.17e-13
41	48	7.2	1802	22	DNA for VEGF/CPG2 fus	7.17e-13
42	48	7.2	1823	22	SAP-AlaMet-VEGF165(G	7.17e-13
43	48	7.2	1832	37	DNA for VEGF/CPG2 fus	7.17e-13
44	48	7.2	1859	22	SAP(G14Ser)2VEGF165	7.17e-13
45	48	7.2	1873	39	Human vascular endoth	7.17e-13

## ALIGNMENTS

RESULT 1  
 ID T44071 standard; cDNA; 666 BP.  
 AC T44071:  
 DT 01-SEP-1997 (first entry)  
 DE Human vascular endothelial growth factor 3 cDNA.  
 KW Human vascular endothelial growth factor; hVEGF3; angiogenesis;  
 KM tumour; inflammation; rheumatoid arthritis; diabetic retinopathy;  
 OS psoriasis; bone; periodontium; ligament; antagonist; ss.  
 OS Homo sapiens.  
 FH Homo sapiens.  
 FT Key Location/Qualifiers  
 FT Cds 1..666  
 FT FT /\*tag= a  
 FT PN /product= VEGF3  
 FT PN MO9639421-A1.  
 FT PN 12-DEC-1996.  
 FT PN 06-JUN-1995; U07283.  
 FT PR 06-JUN-1995; MO-007283.  
 FT PA (HOMA-) HUMAN GENOME SCI INC.  
 FT PI Olsen H, Rosen CA, Hu JS;  
 FT DR WPI: 97-043056/04.  
 FT DR P-PSDB: W07611.  
 FT PT DNA encoding human vascular endothelial growth factor 3 - useful for  
 PT develop prods. for, e.g. stimulating angiogenesis or treating  
 PT tumours, inflammation or rheumatoid arthritis  
 PT Claim 1; Page 43; 56pp; English.  
 CC This sequence encodes human vascular endothelial growth factor 3  
 CC (VEGF3). The growth factor can be used to stimulate angiogenesis and  
 CC wound healing, and to promote vascular tissue repair. It can also be  
 CC used to induce the growth of damaged bone, periodontium or ligament  
 CC tissue. VEGF3 antagonists can be used to inhibit tumour growth, or to  
 CC treat diabetic retinopathy, inflammation, rheumatoid arthritis or  
 CC psoriasis.  
 SO Sequence 666 BP; 125 A; 232 C; 198 G; 111 T;

Query Match 100.0%; Score 666; DB 31; Length 666;  
 Best Local Similarity 100.0%; Pred. No. 0.00e+00;  
 Matches 666; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

Db 1 atgagaagtgtagaataaagtggaggagcccccggcgccccggctgtcccccaggagcc 60
Oy 1 ATGAGAAGTGTTAGAAATAGTGGAGAGGCCCCGGGCGCCCCGGGTGTCCCGCCAGGCC 60
Db 61 cctctcccccagcttgatgccccctggccacagaaggaaagtgtgtatgtatgtgt 120
Oy 61 CCTCTTCCCGAGCTGTAGTCCCTGGCCCTGGCCACAGAGAAAGTGTATGTATGTAGTGTG 120
Db 121 tatactgcgtacactgcccagccccggagggtgtgtgtccctgtgactgtgagctatg 180
Oy 121 TATATGCGCGGTACTGCTGCACACCCGGGAGGTGTGTGTGCTGCTGACTGTGAGACTATG 180
Db 181 ggcacgctgtgccaacagcgtgtgtccagactgctgtgactgtgacgctgtgtgtgtgc 240
Oy 181 GGCACCTGTGGCAAAACAGCTGTGTGCTCCAGCTGCTGACTGTGAGCCCTGTGTGTGTGTC 240
Db 241 tgccttgacgatgctgctggagggtgtgtgtccactgtggcagcacaagtcggatgcatc 300
Oy 241 TGCCCTTACGATGGCTGTGAGTGTGTGCCACTGGCAGCACCAAGTCCGGATGCAAGATC 300
Db 301 ctcattgtccggtacccagcagcagctggtggaggagtgtccctgtgagaacacagcagcag 360
Oy 301 CTATGATCCGGTACCGGAGAGAGTCACTGGGGAGATGTCTCCGGAAGAACAAGACAGCAG 360
Db 361 tgtgatagtcagacctaataaaaggagacagtgtgtgaaagcagaaggtgtgtactccc 420
Oy 361 TGTGAATGCAGACTATAAAAAAGACAGTGTGTGAAGCAGACAGAGGCTGTACTATCC 420
Db 421 caccacagctccagagccgctgtctgcgggtgtggaactgtgccccggagagacccctcc 480
Oy 421 CACACAGCTCCCAAGCCCCGTTGTGTCCGGGTGGAGTCTGCCCCCGGAGACACCTCC 480
Db 481 ccaagctgacatccaccatcccaactccagccccagccccctgtgccccagctgaccacag 540
Oy 481 CCAAGCTACATCAACCCATCCCACTCCAGCCAGCCGCCCTGTGCCACACCTGACCCAG 540
Db 541 caccacagctgtccctgacccccggagactgtgcgtgtgcagtcgacgcagcttcctc 600
Oy 541 CACCACAGTGGCCTGTGACCCCGGACCTGCGCTGTGTGACCCGCTGCTCTC 600
Db 601 cgtgtgaaggcgaggccttagagctcaaccagacccctgcagaggtgtgcggaagctgtgca 660
Oy 601 CGTGTGAAGCGGCGGCTTAGAGCTCAACCCAGACACCTGCAAGGTGCCGGAAGCTGCGA 660
Db 661 aagttga 666
Oy 661 AGGTGA 666

```

RESULT 2  
ID T33610 standard: cDNA: 1094 BP.  
AC T33610;

DE Vascular endothelial growth factor-1 like protein SOM175 cDNA.  
KM Vascular endothelial growth factor: VEGF; VEGF165; SOM175; neuron;  
OS astroglial proliferation; ss.  
FH Key Location/Qualifiers  
FT cds 3..626  
FT signal\_peptide 3..65  
FT mat\_peptide 66..623  
FT tag= a  
FT tag= b  
FT tag= c  
PN WO9627007-A1.  
PD 06-SEP-1996.  
PF 22-FEB-1996; AU0094.  
PR 02-FEB-1996; AU-001457.  
PR 20-NOV-1995; AU-006647.  
PR 22-DEC-1995; AU-007274.  
PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;

```

PI Weber G;  
DR WPI: 96-412774/41.  
DR P-PSDB: W00725.  
PT New growth factor related to vascular endothelial growth factor -  
PT useful for inducing astroglial proliferation and promoting neuronal  
PT survival  
PS Claim 32: Page 39-40; 113pp; English.  
CC SOM175 cDNA (T33610) codes for a human vascular endothelial growth  
CC factor (VEGF)-like polypeptide (W00725) capable of inducing  
CC astroglial proliferation and of promoting neural survival and/or  
CC proliferation. It was isolated by screening a human foetal brain  
CC library with the cosmid D15750. Nucleotide sequence homology to  
CC the human VEGF gene (see also T33609) is 69.7%. The SOM175 gene  
CC also T33611-13) were detected in a human foetal spleen library.  
CC SOM175 cDNA can be used to produce recombinant SOM175 protein or as  
CC a diagnostic probe. Antisense or ribozyme sequences can ameliorate  
CC the effects of VEGF-like gene overexpression leading to angiogenesis  
CC or tumour vascularisation.  
SQ Sequence 1094 BP; 245 A; 359 C; 300 G; 190 T;  
Query Match 90.7%; Score 604; DB 23; Length 1094;  
Best Local Similarity 99.2%; Pred. No. 0.00e+00;  
Matches 614; Conservative 0; Mismatches 4; Indels 1; Gaps 1;  
Db 53 cccgcgcaaggcccgctgtccagcctgtatgcccctgtgcccacagaggaaagtgtgtc 112  
Oy 48 CCGCGCCAGGCCCCGCTGTCCAGCTGATGCCCTGTGCCACAGAAAGATGTGTTC 107  
Db 113 atgataagatgtatatactgcgtacactgtgcaagcccgaggagtgtgtgctctgac 172  
Oy 108 ATGATAGATGTGTATATCTGCGCTACTGTGACGCCCGGAGAGTGTGTGCTTGAAC 167  
Db 173 tftggagctcataggagccgtgtgccaacagctgtgtgcccagctgtgtactgtgtgagc 232  
Oy 168 TGTGAGCTCATAGGACCGGTGGCCAAACAGCTGTGTGCCAGTGTGTACTGTGTGAGCG 227  
Db 233 ctgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 292  
Oy 228 CTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 287  
Db 293 ccggtatgcagatcctcaatgataccggtacccgagcagctgtgtgtgtgtgtgtgtgtgt 352  
Oy 288 CCGGATGCAAGATCCTCATATCCGATCCGATCCGAGCTGAGTGTGTGTGTGTGTGTGTGTGA 347  
Db 353 agaacacagcagctgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 412  
Oy 348 AGAACACAGCCAGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 407  
Db 413 ggtctgacctcccaacacagctgtccagcccgctgtgtgtgtgtgtgtgtgtgtgtgtgtgt 472  
Oy 408 GGCTGTACTCCCAACACAGCTGTCCAGCCCGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 467  
Db 473 cggagacacctcccaagctgtacataccca - tccactcagccccaagccctctgtccc 531  
Oy 468 CGAGACACCTCCCAAGCTGACATCACCAATCCACTCACGCCACCGCCCTGTGCC 527  
Db 532 acgctgacacccagacacacacagcgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 591  
Oy 528 ACGCTGACACCCAGACACACACAGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 587  
Db 592 ccgagcttctcctgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 651  
Oy 588 CCGAGCTTCTCCGTTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 647  
Db 652 ccggaagctgtcgaagtgtga 670  
Oy 648 CCGGAAGCTGTGCAAGTGA 666

```

RESULT 3  
ID T37915 standard: cDNA: 624 BP.  
AC T37915;



28-APR-1997 (first entry)  
 DE VEGF-B186 coding sequence.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse; ss.  
 OS Homo sapiens.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PF 01-MAR-1996: U02957.  
 PR 01-MAR-1995: US-397651.  
 PR 06-JUN-1995: US-469427.  
 PR 06-DEC-1995: US-569063.  
 PA (LUDM-) LUDMIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Altalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 DR P-PSDB: W04831.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Claim 1: Page 61-62; 107pp: English.  
 CC T37909-T37915 represent the coding sequences for the vascular endothelial  
 CC growth factor (VEGF) proteins of the invention, which promote endothelial  
 CC or mesodermal cell proliferation. VEGF is also a glycosylated cationic  
 CC dimer, and is sometimes referred to as vascular permeability factor  
 CC (VPF). VEGF has diverse effects, depending on the specific biological  
 CC context in which it is found. VEGF is a potent endothelial cell mitogen,  
 CC and directly contributes to induction of angiogenesis in vivo by  
 CC promoting endothelial cell growth during normal embryonic development.  
 CC wound healing, and tissue regeneration/organisation. The VEGF proteins  
 CC of the invention share the angiogenic and other properties of VEGF, but  
 CC are distributed and expressed in tissues differently to VEGF. The  
 CC proteins can therefore be used to accelerate angiogenesis in wound  
 CC healing. Antibodies against the proteins can be used for inhibiting  
 CC angiogenesis. The antibodies can also be used diagnostically to  
 CC quantitatively detect VEGF-B. Primers complementary to the coding  
 CC sequences for the proteins of the invention can also be used to detect  
 CC VEGF-B coding sequences. Quantification of VEGF-B in cancer biopsy  
 CC specimens may be useful as an indicator of metastatic risk. VEGF-B  
 CC expression in a cell can be retarded using antisense sequences direct  
 CC against the VEGF coding sequences, this is especially useful in retarding  
 CC VEGF expression in tumour cells.  
 SQ Sequence 624 BP: 106 A; 235 C; 179 G; 104 T;

Query Match 83.8%; Score 558; DB 28; Length 624;  
 Best Local Similarity 99.0%; Pred. No. 0.00e+00;  
 Matches 569; Conservative 0; Mismatches 5; Indels 1; Gaps 1;

Db 51 cccgcgcagccctgtctcccaagctgacgcccctgcccagaggaagtgtgtc 110  
 |||||||  
 QY 48 CCCGCCAGGCCCTGTCTCCCAAGCTGATGCCCCCTGCCACCAAGAAAGTGTCTC 107  
 |||||||  
 Db 111 atgataatgtgtatctacgcgcgtaccctgcagcccgagagtggtgtgacctgtac 170  
 |||||||  
 QY 108 ATGATATAGATGTGTACTCGCGGCTACTGCACGCCCGGGAGGTGGTGTGCTTAC 167  
 |||||||  
 Db 171 ttgtgagctcatgtggcaccgtgtggcaaacagctgtgtgccagctgcgtgaattgtcacg 230  
 |||||||  
 QY 168 TGTGAGGTCAATGGCACCCTGTGGCCAAACAGTGTGTGCCAGCTGCTGACTGTGCACCG 227  
 |||||||  
 Db 221 ctgt 290  
 |||||||  
 QY 228 CTGT 287  
 |||||||  
 Db 291 ccgagatcagatcctcatgatcctgcgtacccgagcagtcagctgtgtgtgtgtgtgtgtgtgtgt 350  
 |||||||  
 QY 288 CCGGATGCAGATCCATCATGATCCGGTACCCGAGCAGTACGCTGGGGAGATGTCCCTCGA 347  
 |||||||  
 Db 351 agaacacagcagtgatgtatgcagacctaataaagacagctgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 410  
 |||||||  
 QY 348 AGAACACAGCAGTGTGATGCAGACCTTAAAAAAGAGACAGTGTGTGTAAGCAGACAG 407  
 |||||||

Db 411 ggtgtcacctcccccacacacgctcccccagcccggttctgttcgggctgtgactgtcccc 470  
 |||||||  
 QY 408 GGTGTCTACTCTCCACACACGCTCCCAAGCCCGTTTCTGTTCGGGCTGGAGCTGTGCCCC 467  
 |||||||  
 Db 471 cggagacacctcccaagctgacatcacca-tcccaatccagcccccagggccctctgtccc 529  
 |||||||  
 QY 468 CGGAGCACCCCTCCCAAGCTGACATCACCAATCCACATCCAGCCACAGGCCCTCTGTGCC 527  
 |||||||  
 Db 530 acgtgtacccacagacacacacacgagccctgtgaccccccagaccccgccgctgtccgagc 589  
 |||||||  
 QY 528 AGCTGTACACAGACACACAGTGTCTGTGACCCCGGAGCTGTGCGCTGTGTGACG 587  
 |||||||  
 Db 590 ccgagctctctcgtgtccagaggcgggttag 624  
 |||||||  
 QY 588 CCGCAGCTTCTCTCGTTCTGTCTCAAGGGCGGCGCTTAG 622  
 |||||||

RESULT 4  
 ID T13809 standard; cDNA; 1242 BP.  
 AC T13809;  
 DT 30-NOV-1996 (first entry)  
 DE Murine VRF186 cDNA.  
 KW VRF; vascular endothelial growth factor; VEGF; SOM175; neuron;  
 KW astroglial proliferation; ss.  
 OS Mus musculus.  
 FH Key Location/Qualifiers  
 FT cds 166..789  
 FT //tag- a  
 FT signal\_peptide 166..228  
 FT //tag- b  
 FT mat\_peptide 229..786  
 FT //tag- c  
 FT exon 576..676  
 FT //tag- d  
 FT //note= "exon 6, deleted in VRF169"  
 FT repeat\_region 1163..1176  
 FT //tag- e  
 FT poly\_a\_signal 1186..1191  
 FT //tag- f  
 FT W09627007-A1.  
 PN 06-SEP-1996.  
 PD 06-SEP-1996.  
 PF 22-FEB-1996: AU0094.  
 PR 02-MAR-1995: AU-001457.  
 PR 20-NOV-1995: AU-006647.  
 PR 22-DEC-1995: AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
 PI Weber G;  
 DR WPI: 96-412774/41.  
 DR P-PSDB: W00863.  
 DT New growth factor related to vascular endothelial growth factor -  
 DT useful for inducing astroglial proliferation and promoting neuronal  
 DT survival  
 PS Example 5: Fig 9: 113pp: English.  
 CC VRF186 cDNA (T13809) codes for the murine homologue (W00863) of  
 CC human vascular endothelial growth factor-like polypeptide SOM175  
 CC (W00725), a protein capable of inducing astroglial proliferation  
 CC and of promoting neural survival and/or proliferation. It was  
 CC obtd. from a new-born mouse brain cDNA library using SOM175 cDNA  
 CC (see also r33610) as probe. The murine VRF gene maps near to the  
 CC centromere of chromosome 19. It is highly expressed in embryo tissue  
 CC and in the heart and brown fat of adult mice. An alternatively  
 CC spliced variant, VRF169 (T13810), was also identified.  
 SQ Sequence 1242 BP: 272 A; 409 C; 333 G; 228 T;

Query Match 72.5%; Score 483; DB 23; Length 1242;  
 Best Local Similarity 89.7%; Pred. No. 1.74e-285;  
 Matches 551; Conservative 0; Mismatches 62; Indels 1; Gaps 1;

Db 221 cccagccctgtgtcccaattgtatgtgcccagctcacccagaaagtggtgcacatga 280  
 |||||||

QY 53 CCCAGGCCCTGTCTCCAGCCTGATGCCCTGGCCACAGAGAAAGTGTGTCATGGA 112  
 Db 281 tagagcttattgacagtgccacatgcccagccagagagtggtgtgcttcctcagacatg 340  
 QY 113 TAGATGTGTAATACCGGGCTACCTGACAGCCCGGAGGAGTGTGTGCTCCCTGACCTGTGG 172  
 Db 341 aactcatgtggcaatgtgtgtaaacactagtgtccagctgtgtgactgtgcaagctgtg 400  
 QY 173 AGCTCATGGGCGACCGTGGCCAAACAGCTGGGCCACCTGGCTGACCTGTGAGCGCTGTG 232  
 Db 401 gtgagctgtcctccagagatgagctgtgaaatgtgtgcccactgggcaacacacactccgaa 460  
 QY 233 GTGGCTCTGTGCTGAGATGAGGCTGAGTGTGTGCCCCAGTGGGACACCAATCCGGA 292  
 Db 461 tgcagatccctcatgacatgacacacagcagctcagctgtggtggaatgtccctgggaagac 520  
 QY 293 TGCAGATGCTCATGATCCGGATACCCGAGCATGCTGAGGGGAGATGCTCCCTGGAAGAAC 352  
 Db 521 acagcgaatgtgaatgacagacataaaaaagagagatgtctgtgagccagacaggttg 580  
 QY 353 ACAGCCAGTGTGATGACAGACCTAAAAAGACAGTGTGTGTAACCCAGACAGGCGCTG 412  
 Db 581 ccatacccaacacacagctcccaagcccgctctgtctcgggctgtgactctaacccggag 640  
 QY 413 CTACTCCCAACACCGCTCCCAAGCCCGCTTGTTCGGGCTGGGACTGTGCCCGGAG 472  
 Db 641 caacctcccaagctgacatcatcca-tccactccagcccaagatctctgcccgcct 699  
 QY 473 CACCTCCCAAGCTGACATACCCCAATCCCACTCCAGCCCAAGCCCTGTGCCCAAGCT 532  
 Db 700 gcaaccagcgccgcaagccctgtgaccccgagctgcgttcgcgtgtagacgcgc 759  
 QY 533 GCACCCAGCACACCACTGCTGACCCCGGACCTGCCCTGCTGCAGGCGCA 592  
 Db 760 gcttcctccatgccaagggcgaggcttagagctcaaccagacactgtagtgccgga 819  
 QY 593 GCTTCTCCTGCTTGTCAAGGGCGGGGCTTAGAGCTCAACCCAGACACTGTGAGTCCGGA 652  
 Db 820 agccgcgaagatga 833  
 QY 653 AGCTGCCAAGTGA 666

RESULT 5  
 ID T37913 standard; cDNA; 624 BP.  
 AC T37914;  
 DT 28-APR-1997 (first entry)  
 DE VEGF-B166 coding sequence.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;  
 KW cancer; metastatic risk; tumour cell; mouse; ss.  
 OS Mus musculus.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PF 01-MAR-1996; 002957.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alitalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR MPI: 96-412582/41.  
 P-PSDB: W04830.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Claim 1; Page 60; 107PP; English.  
 CC T37909-T37915 represent the coding sequences for the vascular endothelial  
 CC growth factor (VEGF) proteins of the invention, which promote endothelial  
 CC or mesodermal cell proliferation. VEGF is also a glycosylated cationic  
 CC dimer, and is sometimes referred to as vascular permeability factor

CC (VEGF). VEGF has diverse effects, depending on the specific biological  
 CC context in which it is found. VEGF is a potent endothelial cell mitogen,  
 CC and directly contributes to induction of angiogenesis in vivo by  
 CC promoting endothelial cell growth during normal embryonic development,  
 CC wound healing, and tissue regeneration/reorganisation. The VEGF proteins  
 CC of the invention share the angiogenic and other properties of VEGF, but  
 CC are distributed and expressed in tissues differently to VEGF. The  
 CC proteins can therefore be used to accelerate angiogenesis in wound  
 CC healing. Antibodies against the proteins can be used for inhibiting  
 CC angiogenesis. The antibodies can also be used diagnostically to  
 CC quantitatively detect VEGF-B. Primers complementary to the coding  
 CC sequences for the proteins of the invention can also be used to detect  
 CC VEGF-B coding sequences. Quantification of VEGF-B in cancer biopsy  
 CC specimens may be useful as an indicator of metastatic risk. VEGF-B  
 CC expression in a cell can be retarded using antisense sequences direct  
 CC against the VEGF coding sequences, this is especially useful in retarding  
 CC VEGF expression in tumour cells.  
 SO Sequence 624 BP; 124 A; 213 C; 173 G; 114 T;

Query Match 66.8%; Score 445; DB 28; Length 624;  
 Best Local Similarity 89.5%; Pred. No. 4,71e-261;  
 Matches 510; Conservative 0; Mismatches 59; Indels 1; Gaps 1;

Db 56 cccagagccctgtgtccagattgtagtgcgccagccacagagaagaatgtgtccatga 115  
 QY 53 CCCAGGCCCTGTCTCCAGCCTGATGCCCTGGCCACAGAGAAAGTGTGTCATGGA 112  
 Db 116 tagagcttattgacagtgccacatgcccagccagagagtggtgtgcttcctcagacatg 175  
 QY 113 TAGATGTGTAATACCGGGCTACCTGACAGCCCGGAGGAGTGTGTGCTCCCTGACCTGTGG 172  
 Db 176 aactcatgtggcaatgtgtgtaaacactagtgtccagctgtgtgactgtgcaagctgtg 235  
 QY 173 AGCTCATGGGCGACCGTGGCCAAACAGCTGGGCCACGCTGCGAGCTGTGAGACCGCTGTG 232  
 Db 236 gtgagctgtcctccagagatgagctgtgaaatgtgtgcccactgtggcaacacacactccgaa 295  
 QY 233 GTGGCTCTGTGCTGAGATGAGGCTGAGTGTGTGCCCCAGTGGGACACCAAGTCCGGA 292  
 Db 296 tgcagatccctcatgacatgacacacagcagcagtagcttggggagagatgtcccttgaagaac 355  
 QY 293 TGCAGATGCTCATGATCCGGATACCCGAGCATGCTGAGGGGAGATGCTCCCTGGAAGAAC 352  
 Db 356 acagcgaatgtgaatgacagacataaaaaagagagatgtctgtgagccagacagagtg 415  
 QY 353 ACAGCCAGTGTGATGACAGACCTAAAAAGACAGTGTGTGTAACCCAGACAGGCGCTG 412  
 Db 416 ccatacccaacacacagctcccaagcccgctgtgttccgggctgtggacttaeccggag 475  
 QY 413 CTACTCCCAACACCGCTCCCAAGCCCGCTTGTTCGGGCTGGGACTGTGCCCGGAG 472  
 Db 476 catctcccaagctgacatcatcca-tccactccagcccaagatctctgtcccgctc 534  
 QY 473 CACCTCCCAAGCTGACATACCCCAATCCCACTCCAGGCCCTCTGTGCCACGCT 532  
 Db 535 gcaaccagcgccgcaagccctgtgaccccgagcactgtgcgtgtgcgtgtgcaagcgcc 594  
 QY 533 GCACCCAGACACCACTGCTGAGCCCGGAGCATGCTGAGGGGAGTGTGCTGACGCGCGGA 592  
 Db 595 gcttcctcatgtccaagggcgaggcttag 624  
 QY 593 GCTTCTCCTGCTTGTCAAGGGCGGGGCTTAG 622

RESULT 6  
 ID T37913 standard; cDNA; 570 BP.  
 AC T37913;  
 DT 28-APR-1997 (first entry)  
 DE Fibrosarcoma VEGF-B167 coding sequence.  
 KW Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
 KW VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KW vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KW embryonic development; wound healing; tissue reorganisation; antibody;

KW cancer: metastatic risk; tumour cell; mouse; ss.  
 OS Homo sapiens.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PF 01-MAR-1996: U02957.  
 PR 01-MAR-1995: US-397651.  
 PR 06-JUN-1995: US-469427.  
 PR 06-DEC-1995: US-569063.  
 PA (LUDM-) LUDMIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alfaleo K, Eriksson U, Olofsson B, Rajusola K;  
 DR WPI: 96-412582/41.  
 DR P-PSDB: W04829.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Claim 1: Page 58-59; 107pp; English.  
 CC T33611-137915 represent the coding sequences for the vascular endothelial  
 CC growth factor (VEGF) proteins of the invention, which promote endothelial  
 CC or mesodermal cell proliferation. VEGF is also a glycosylated cationic  
 CC dimer, and is sometimes referred to as vascular permeability factor  
 CC (VPF). VEGF has diverse effects, depending on the specific biological  
 CC context in which it is found. VEGF is a potent endothelial cell mitogen,  
 CC and directly contributes to induction of angiogenesis in vivo by  
 CC promoting endothelial cell growth during normal embryonic development,  
 CC wound healing, and tissue regeneration/reorganization. The VEGF proteins  
 CC are distributed and expressed in tissues differently to VEGF. The  
 CC proteins can therefore be used to accelerate angiogenesis in wound  
 CC healing. Antibodies against the proteins can be used for inhibiting  
 CC angiogenesis. The antibodies can also be used diagnostically to  
 CC quantitatively detect VEGF-B. Primers complementary to the coding  
 CC sequences for the proteins of the invention can also be used to detect  
 CC VEGF-B coding sequences. Quantification of VEGF-B in cancer biopsy  
 CC specimens may be useful as an indicator of metastatic risk. VEGF-B  
 CC expression in a cell can be retarded using antisense sequences direct  
 CC against the VEGF coding sequences, this is especially useful in retarding  
 CC VEGF expression in tumour cells.  
 SQ Sequence 570 BP; 105 A; 198 C; 173 G; 94 T;

Query Match 54.1%; Score 360; DB 28; Length 570;

Best Local Similarity 100.0%; Pred. No. 1,49e-206;

Matches 360; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 54 cccgcgcagagccctgtctccaccgtatgctccctggccaccagagaaatgtgtc 113  
 |||  
 QY 48 cccgcgcagagccctgtctccaccgtatgctccctggccaccagagaaatgtgtc 107  
 DB 114 atggaatagatgtatgtaactgcgtacccctgacagcccgagagtggtgtcccttgac 173  
 |||  
 QY 108 atggaatagatgtatgtaactgcgtacccctgacagcccgagagtggtgtcccttgac 167  
 DB 174 tctggagctcatgtggcaccgtgtgccaacagcgtgtgccaagtctgtgacttgaagc 233  
 |||  
 QY 168 tctggagctcatgtggcaccgtgtgccaacagcgtgtgccaagtctgtgacttgaagc 227  
 DB 234 ctgtgtgtctgtctgtccctgacagatgagcctgtgagtgctgtgccaagtgtgagcacaat 293  
 |||  
 QY 228 ctgtgtgtctgtctgtccctgacagatgagcctgtgagtgctgtgccaagtgtgagcacaat 287  
 DB 294 ccgagatgcagatccctatgatacctgatacccgagcagatcaagctgtgagagatgtccctgga 353  
 |||  
 QY 288 ccgagatgcagatccctatgatacctgatacccgagcagatcaagctgtgagagatgtccctgga 347  
 DB 354 agaacacacagcagctgtgatacagcagacctaataaagagagagatgtctgtgaagccagacag 413  
 |||  
 QY 348 agaacacacagcagctgtgatacagcagacctaataaagagagagatgtctgtgaagccagacag 407

RESULT 7

ID T33612 standard: cDNA: 858 BP.

AC T33612;

DT 30-NOV-1996 (first entry)

DE Vascular endothelial growth factor-like protein SOM175-e6+e7 cDNA.  
 KW Vascular endothelial growth factor; VEGF; SOM175-e6+e7; neuron;  
 OS Homo sapiens.  
 PN W09627007-A1.  
 PD 06-SEP-1996.  
 PF 22-FEB-1996: AU0094.  
 PR 02-MAR-1995: AU-001457.  
 PR 20-NOV-1995: AU-006647.  
 PR 22-DEC-1995: AU-007274.  
 PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
 PA Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
 PI Weber G;  
 DR WPI: 96-412774/41.  
 DR P-PSDB: W00727.  
 PT New growth factor related to vascular endothelial growth factor -  
 PT useful for inducing astroglial proliferation and promoting neuronal  
 PT survival  
 PS Example 3: Page 44-45; 113pp; English.  
 CC 3 cDNA clones (T33611-13) code for splice variants (W00726-28)  
 CC of the human vascular endothelial growth factor-like polypeptide  
 CC SOM175 (see also W00725). They were identified in a human foetal  
 CC spleen library and respectively lack exon 6, exons 6+7, and exon 4  
 CC of the SOM175 gene (see also T33610). The cDNA clones can be  
 CC used to produce recombinant SOM175 proteins that are useful for  
 CC inducing astroglial proliferation and for promoting neural survival  
 CC and/or proliferation.  
 SQ Sequence 858 BP; 210 A; 243 C; 246 G; 159 T;

Query Match 53.9%; Score 359; DB 23; Length 858;

Best Local Similarity 99.7%; Pred. No. 6,49e-206;

Matches 360; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

DB 53 cccgcgcagagccctgtctccaccgtatgctccctggccaccagagaaatgtgtc 112  
 |||  
 QY 48 cccgcgcagagccctgtctccaccgtatgctccctggccaccagagaaatgtgtc 107  
 DB 113 atggaatagatgtatgtaactgcgtacccctgacagcccgagagtggtgtcccttgac 172  
 |||  
 QY 108 atggaatagatgtatgtaactgcgtacccctgacagcccgagagtggtgtcccttgac 167  
 DB 173 tctggagctcatgtggcaccgtgtgccaacagcgtgtgccaagtctgtgacttgaagc 232  
 |||  
 QY 168 tctggagctcatgtggcaccgtgtgccaacagcgtgtgccaagtctgtgacttgaagc 227  
 DB 233 ctgtgtgtctgtctgtccctgacagatgagcctgtgagtgctgtgccaagtgtgagcacaat 292  
 |||  
 QY 228 ctgtgtgtctgtctgtccctgacagatgagcctgtgagtgctgtgccaagtgtgagcacaat 287  
 DB 293 ccgagatgcagatccctatgatacctgatacccgagcagatcaagctgtgagagatgtccctgga 352  
 |||  
 QY 288 ccgagatgcagatccctatgatacctgatacccgagcagatcaagctgtgagagatgtccctgga 347  
 DB 353 agaacacacagcagctgtgatacagcagacctaataaagagagagatgtctgtgaagccagatag 412  
 |||  
 QY 348 agaacacacagcagctgtgatacagcagacctaataaagagagagatgtctgtgaagccagatag 407  
 DB 413 g 413  
 |||  
 QY 408 g 408

RESULT 8

ID T33611 standard: cDNA: 993 BP.

AC T33611;

DT 30-NOV-1996 (first entry)



PD 06-SEP-1996: 002957.  
PF 01-MAR-1996: US-397651.  
PR 01-MAR-1995: US-397651.  
PR 06-JUN-1995: US-469427.  
PR 06-DEC-1995: US-569063.  
PA (LUDW-) LUDWIG INST CANCER RES.  
PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
PI Alltalo K, Eriksson U, Olofsson B, Pajusola K;  
PI WPI: 96-412582/41.  
PT Vascular endothelial growth factor VEGF-B proteins - useful to  
PT accelerate angiogenesis in wound healing, also related nucleic acid  
PT and antibodies for cancer diagnosis  
PS Claim 1, Page 54-55; 107pp; English.  
CC 737909-737915 represent the coding sequences for the vascular endothelial  
CC growth factor (VEGF) proteins of the invention, which promote endothelial  
CC or mesodermal cell proliferation. VEGF is also a glycosylated cationic  
CC dimer, and is sometimes referred to as vascular permeability factor  
CC (VPF). VEGF has diverse effects, depending on the specific biological  
CC context in which it is found. VEGF is a potent endothelial cell mitogen,  
CC and directly contributes to induction of angiogenesis in vivo by  
CC promoting endothelial cell growth during normal embryonic development,  
CC wound healing, and tissue regeneration/reorganisation. The VEGF proteins  
CC of the invention share the angiogenic and other properties of VEGF, but  
CC are distributed and expressed in tissues differently to VEGF. The  
CC proteins can therefore be used to accelerate angiogenesis in wound  
CC healing. Antibodies against the proteins can be used for inhibiting  
CC angiogenesis. The antibodies can also be used diagnostically to  
CC quantitatively detect VEGF-B. Primers complementary to the coding  
CC sequences for the proteins of the invention can also be used to detect  
CC VEGF-B coding sequences. Quantification of VEGF-B in cancer biopsy  
CC specimens may be useful as an indicator of metastatic risk. VEGF-B  
CC expression in a cell can be retarded using antisense sequences direct  
CC against the VEGF coding sequences, this is especially useful in retarding  
CC VEGF expression in tumour cells.  
SQ Sequence 565 BP; 120 A; 179 C; 166 G; 100 T;  
  
Query Match 42.8%; Score 285; DB 28; Length 565;  
Best Local Similarity 90.1%; Pred. No. 1,056-158;  
Matches 320; Conservative 0; Mismatches 35; Indels 0; Gaps 0;  
  
DB 54 cccaggccctgtgtcccaattgattgagccgagccagcaggaagaagtgtgcatagga 113  
QY 53 CCCAGGCCCTGTCTCCACCTGATGCCCCCTGGCCACAGAGAAAGTGTGTCATGGA 112  
DB 114 tagagcttattgacagtgacacatgcccagccagagagtggtgtcccttcagcatg 173  
QY 113 TAATGTGTACTCGCGCTACTCTCCAGCCCGGAGGTGTGTCCCTTGACTGTGG 172  
DB 174 aactcatggcgaatgtgttcaaacactagtgccagctgtgtgactgtgcagcgtgtg 233  
QY 173 AGTCAATGGCAGCGTGGCAACAGCTGTGTGCCACACTCGTAGCTGCAGAGCGTGTG 232  
DB 234 gtgtgcgtgccttcagatgagctgtggaatgtgtccacttgggcaacacacagtcgaa 293  
QY 233 GTGGCTGCTCCCTTCAGAGAGGCTGTGAGTGTGCCCACTGGGCAACACCAAGTCCGGA 292  
DB 294 tggagatcccatgacatccatgacccagcagtgacgtcgtgggagagatgcccttgaagaac 353  
QY 293 TGCAGATCCCTCATGATCGGTAACCGAGCTGAGCTGGGGAGATGTCCTGGAAAGAC 352  
DB 354 acagcgaatgtgatatgcagacacaaagagagagatgtgtgaaagcagagacag 408  
QY 353 ACAGCCAGTGTGATGACGACCTAAAGGACAGTGTGTGAACCCAGACAG 407  
  
RESULT 11  
ID T13810 standard: CDNA: 1141 BP.  
AC T13810:  
DT 30-NOV-1996 (first entry)  
DE Murine VRF167 CDNA  
KW VRF: vascular endothelial growth factor: VEGF; SOM175; neuron;  
KW astroglial proliferation; ss.

OS Mus musculus.  
FH Key Location/Qualifiers  
FT cds 166..732  
FT \*tag= a 166..732  
FT signal\_peptide 166..228  
FT \*tag= b 229..729  
FT mat\_peptide 229..729  
FT \*tag= c 1062..1065  
FT repeat\_region 1062..1065  
FT \*tag= d /note= "polymorphic AC repeat region"  
FT poly\_a\_signal 1085..1090  
FT \*tag= e  
  
PN W09627007-A1.  
PD 06-SEP-1996.  
PF 22-FEB-1996: AU00994.  
PR 02-MAR-1995: AU-001457.  
PR 20-NOV-1995: AU-006647.  
PR 22-DEC-1995: AU-007274.  
PA (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI (AMRA-) AMRAD OPERATIONS PTY LTD.  
PI Weber G;  
PI Grimmond S, Hayward NK, Larsson C, Nordenskjold M;  
PI WPI: 96-412774/41.  
DR P-PSDB: W00864.  
PT New growth factor related to vascular endothelial growth factor -  
PT useful for inducing astroglial proliferation and promoting neuronal  
PT survival  
PS Example 5: Fig 9; 113pp; English.  
CC VRF169 CDNA (T13810) codes for a murine homologue (W00864) of an  
CC alternatively spliced variant (W00726) of human vascular endothelial  
CC growth factor-like polypeptide SOM175 (see also W00725), a protein  
CC capable of inducing astroglial proliferation and of promoting neural  
CC survival and/or proliferation. It was obt. from a new-born mouse  
CC brain cDNA library using SOM175 CDNA (see also T33610) as probe. The  
CC murine VRF gene maps near to the centromere of chromosome 19. It is  
CC highly expressed in embryo tissue and in the heart and brown fat of  
CC adult mice. VRF169 lacks exon 6, found in VRF186 CDNA (T13809).  
SQ Sequence 1141 BP; 256 A; 361 C; 313 G; 211 T;  
  
Query Match 42.2%; Score 281; DB 23; Length 1141;  
Best Local Similarity 89.6%; Pred. No. 3,656-156;  
Matches 318; Conservative 0; Mismatches 37; Indels 0; Gaps 0;  
  
DB 221 cccaggccctgtgtcccaattgattgagccgagccagcaggaagaagtgtgcatagga 370  
QY 53 CCCAGGCCCTGTCTCCACCTGATGCCCCCTGGCCACAGAGAAAGTGTGTCATGGA 112  
DB 281 tagagcttattgacagtgacacatgcccagccagagagtggtgtcccttcagcatg 340  
QY 113 TAATGTGTACTCGCGCTACTCTCCAGCCCGGAGGTGTGTCCCTTGACTGTGG 172  
DB 341 aactcatggcgaatgtgttcaaacactagtgccagctgtgtgactgtgcagcgtgtg 400  
QY 173 AGTCAATGGCAGCGTGGCAACAGCTGTGTGCCACACTCGTAGCTGCAGAGCGTGTG 232  
DB 401 gtgtgcgtgccttcagatgagctgtggaatgtgtccacttgggcaacacacagtcgaa 460  
QY 233 GTGGCTGCTCCCTTCAGAGAGGCTGTGAGTGTGCCCACTGGGCAACACCAAGTCCGGA 292  
DB 461 tggagatcccatgacatccatgacccagcagtgacgtcgtgggagagatgcccttgaagaac 520  
QY 293 TGCAGATCCCTCATGATCGGTAACCGAGCTGAGCTGGGGAGATGTCCTGGAAAGAC 352  
DB 521 acagcgaatgtgatatgcagacacaaagagagagatgtgtgaaagcagagacag 575  
QY 353 ACAGCCAGTGTGATGACGACCTAAAGGACAGTGTGTGAACCCAGACAG 407  
  
RESULT 12  
ID T37912 standard: CDNA: 405 BP.  
AC T37912:  
DT 28-APR-1997 (first entry)  
DE VEGF-B112 coding sequence.

KM Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
 KM VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KM vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KM embryonic development; wound healing; tissue reorganisation; antibody;  
 KM cancer; metastatic risk; tumour cell; mouse; ss.  
 OS Mus musculus.  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PF 01-MAR-1996; U02957.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alltalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 DR P-PSDB: W04828.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Claim 1; Page 57; 107pp: English.  
 CC T37909-T37915 represent the coding sequences for the vascular endothelial  
 CC growth factor (VEGF) proteins of the invention, which promote endothelial  
 CC or mesodermal cell proliferation. VEGF is also a glycosylated cationic  
 CC dimer, and is sometimes referred to as vascular permeability factor  
 CC (VPF). VEGF has diverse effects, depending on the specific biological  
 CC context in which it is found. VEGF is a potent endothelial cell mitogen,  
 CC and directly contributes to induction of angiogenesis in vivo by  
 CC promoting endothelial cell growth during normal embryonic development.  
 CC wound healing, and tissue regeneration/reorganisation. The VEGF proteins  
 CC of the invention share the angiogenic and other properties of VEGF, but  
 CC are distributed and expressed in tissues differently to VEGF. The  
 CC proteins can therefore be used to accelerate angiogenesis in wound  
 CC healing. Antibodies against the proteins can be used for inhibiting  
 CC angiogenesis. The antibodies can also be used diagnostically to  
 CC quantitatively detect VEGF-B. Primers complementary to the coding  
 CC sequences for the proteins of the invention can also be used to detect  
 CC VEGF-B coding sequences. Quantification of VEGF-B in cancer biopsy  
 CC specimens may be useful as an indicator of metastatic risk. VEGF-B  
 CC expression in a cell can be retarded using antisense sequences direct  
 CC against the VEGF coding sequences, this is especially useful in retarding  
 CC VEGF expression in tumour cells.  
 SQ Sequence 405 BP; 93 A; 113 C; 120 G; 79 T;  
 Query Match 39.5%; Score 263; DB 28; Length 405;  
 Best Local Similarity 89.7%; Pred. No. 9,87e-145;  
 Matches 297; Conservative 0; Mismatches 34; Indels 0; Gaps 0;

RESULT 13  
 ID T37909 standard; cDNA; 886 BP.  
 AC T37909;  
 DT 28-APR-1997 (first entry)  
 DE Partial VEGF-B coding sequence.  
 KM Endothelial cell; proliferation; vascular endothelial growth factor; VEGF;  
 KM VEGF; endothelium; mesodermal cell; cationic dimer; tissue regeneration;  
 KM vascular permeability factor; cell mitogen; angiogenesis; cell growth;  
 KM embryonic development; wound healing; tissue reorganisation; antibody;  
 KM cancer; metastatic risk; tumour cell; mouse; ss.  
 OS Mus musculus.  
 FH Key  
 FT cds  
 FT 2..312  
 FT /tag- a  
 FT /product- First reading frame VEGF-B fragment  
 FT 312..479  
 FT cds  
 FT /tag- b  
 FT /product- Second reading frame VEGF-B fragment  
 PN W09626736-A1.  
 PD 06-SEP-1996.  
 PF 01-MAR-1996; U02957.  
 PR 01-MAR-1995; US-397651.  
 PR 06-JUN-1995; US-469427.  
 PR 06-DEC-1995; US-569063.  
 PA (LUDW-) LUDWIG INST CANCER RES.  
 PA (UYHE-) UNIV HELSINKI LICENSING LTD OY.  
 PI Alltalo K, Eriksson U, Olofsson B, Pajusola K;  
 DR WPI: 96-412582/41.  
 DR P-PSDB: W04824, W04825.  
 PT Vascular endothelial growth factor VEGF-B proteins - useful to  
 PT accelerate angiogenesis in wound healing, also related nucleic acid  
 PT and antibodies for cancer diagnosis  
 PS Claim 1; Page 53; 107pp: English.  
 CC This represents a fragment of the mouse embryo vascular endothelial  
 CC growth factor-B (VEGF-B) protein coding sequence. The encoded proteins  
 CC (and W04826-W04831) represent the VEGF proteins of the invention, and  
 CC promote endothelial or mesodermal cell proliferation. VEGF is also a  
 CC glycosylated cationic dimer, and is sometimes referred to as vascular  
 CC permeability factor (VPF). VEGF has diverse effects, depending on the  
 CC specific biological context in which it is found. VEGF is a potent  
 CC endothelial cell mitogen, and directly contributes to induction of  
 CC angiogenesis in vivo by promoting endothelial cell growth during normal  
 CC embryonic development, wound healing, and tissue  
 CC regeneration/reorganisation. The VEGF proteins of the invention share  
 CC the angiogenic and other properties of VEGF, but are distributed and  
 CC expressed in tissues differently to VEGF. The proteins can therefore be  
 CC used to accelerate angiogenesis in wound healing. Antibodies against the  
 CC proteins can be used for inhibiting angiogenesis. The antibodies can  
 CC also be used diagnostically to quantitatively detect VEGF-B. Primers  
 CC complementary to the coding sequences for the proteins of the invention  
 CC can also be used to detect VEGF-B coding sequences. Quantification of  
 CC VEGF-B in cancer biopsy specimens may be useful as an indicator of  
 CC metastatic risk. VEGF-B expression in a cell can be retarded using  
 CC antisense sequences direct against the VEGF coding sequences, this is  
 CC especially useful in retarding VEGF expression in tumour cells.  
 SQ Sequence 886 BP; 227 A; 261 C; 226 G; 172 T;  
 Query Match 36.2%; Score 241; DB 28; Length 886;  
 Best Local Similarity 90.4%; Pred. No. 8,55e-131;  
 Matches 281; Conservative 0; Mismatches 28; Indels 2; Gaps 1;





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Description: (1-666) from US09033662.seq

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Scoring table: TABLE default

Gap 6

Nmatch STD : Dbase 0; Query 0

Searched: 567134 segs, 1101898692 bases x 2

Post-processing: Minimum Match 0%

Listing first 45 summaries

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Statistics: Mean 10.510; Variance 5.631; scale 1.866

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description	Pred. No.
1	604	90.7	1079	25	HSU43368	Human VEGF related fac	0.00e+00
2	602	90.4	755	27	HSU52819	Mus musculus endoth	0.00e+00
3	483	72.5	896	28	MMU52830	Mus musculus vascular	0.00e+00
4	483	72.5	1336	28	MMU43836	Mus musculus VEGF-rela	0.00e+00
5	360	54.1	567	25	HSU43369	Human VEGF related fac	1.99e-250
6	360	54.1	570	21	HSU43369	Sequence 10 from paten	1.99e-250
7	360	54.1	570	25	HSU48801	Human vascular endothe	1.99e-250
8	285	42.8	565	21	MMU43837	Sequence 4 from patent	1.61e-191
9	285	42.8	795	28	MMU48800	Mus musculus VEGF-rela	1.61e-191
10	285	42.8	795	28	AF022925	Mus musculus vascular	1.61e-191
11	261	42.2	349	28	AF022925	Rattus norvegicus vasc	2.17e-188
12	261	39.5	405	21	HSU43368	Sequence 8 from patent	2.47e-174
13	248	37.2	453	28	AF022952	Rattus norvegicus vasc	1.19e-165

14	241	36.2	886	21	HSU43368	Sequence 1 from patent	3.31e-157
15	183	27.5	591	21	HSU43368	Sequence 6 from patent	2.06e-112
16	67	10.1	7218	21	AF022919	Sequence 14 from patent	1.83e-176
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19	48	7.2	576	21	HSU43368	Sequence 5 from patent	9.95e-176
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## ALIGNMENTS

RESULT LOCUS	1	HSU43368	1079 bp	mRNA	PRI	07-MAR-1996
DEFINITION	Human VEGF related factor isoform VRF186 precursor (VRF) mRNA, complete cds.					
ACCESSION	U43368					
KEYWORDS	g1216395					
SOURCE	human.					
ORGANISM	Human sapiens					
REFERENCE	Grimmond, S., Lagercrantz, J., Drinkwater, C., Sillins, G., Townsend, S., Pollock, P., Gotley, D., Carson, E., Rakar, S., Nordenskjold, M., Ward, L., Hayward, N. and Weber, G.					
AUTHORS	Cloning and characterization of a novel human gene related to vascular endothelial growth factor					
TITLE	Genome Res. 6 (2), 122-129 (1996)					
JOURNAL	2 (bases 1 to 1079)					
AUTHORS	Sillins, G. U.					
TITLE	Direct Submission					
JOURNAL	Submitted (15-DEC-1995) Ginters U. Sillins, Human Genetics, Queensland Institute of Medical Research, Herston, Queensland, 4029, Australia					
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RESULT 2
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DEFINITION Human vascular endothelial growth factor B 186 (VEGF-B) precursor,
ACCESSION U52819
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NID 91488258
KEYWORDS
SOURCE human
ORGANISM Homo sapiens
Eukaryote; mitochondrial eukaryotes; Metazoa; Chordata;
Vertebrata; Eutheria; Primates; Catarrhini; Homnidae; Homo.
REFERENCE
AUTHORS 1 (bases 1 to 755)
Olofsson,B., Pajusola,K., Kaipainen,A., von Euler,G., Joukov,V.,
Saksela,O., Orpana,A., Pettersson,R.F., Alltalo,K. and Eriksson,B.
TITLE Vascular endothelial growth factor B, a novel growth factor for
endothelial cells
JOURNAL Proc. Natl. Acad. Sci. U.S.A. 93 (6), 2576-2581 (1996)
MEDLINE 96197335
REFERENCE 2 (bases 1 to 755)
Olofsson,B., Pajusola,K., von Euler,G., Chillov,D., Alltalo,K. and
Eriksson,B.
TITLE Genomic organization of the mouse and human genes for vascular
endothelial growth factor B (VEGF-B) and characterization of a
second splice isoform
J. Biol. Chem. 271 (32), 19310-19317 (1996)
REFERENCE 3 (bases 1 to 755)
Eriksson,B., Alltalo,K., Olofsson,B. and Pajusola,K.
AUTHORS Direct Submission
TITLE Submitted (27-MAR-1996) Ulf Eriksson, Ludwig Institute for Cancer
Research, Karolinska Institutet, Doktorringen 12A, Stockholm S-171,
77, Sweden
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Matches 613; Conservative 0; Mismatches 5; Indels 1; Gaps 1;

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## BEST AVAILABLE COPY

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RESULT 3  
LOCUS MM052820 896 bp mRNA ROD 08-OCT-1996  
DEFINITION Mus musculus vascular endothelial growth factor B 186 (VEGF-B)  
ACCESSION U52820  
NID g1488260  
KEYWORDS  
SOURCE house mouse.  
ORGANISM Mus musculus  
Eukaryotes; Euthera; Rodentia; Sciurognathi; Myomorpha; Muridae;  
Murinae; Mus.  
REFERENCE 1 (bases 1 to 896)  
AUTHORS Olsson, B., Pajusola, K., Kaipainen, A., von Euler, G., Joukov, V.,  
Saksela, O., Orpana, A., Petersson, R.F., Allitalo, K. and Eriksson, U.  
TITLE Vascular endothelial growth factor B, a novel growth factor for  
endothelial cells  
JOURNAL Proc. Natl. Acad. Sci. U.S.A. 93 (6), 2576-2581 (1996)  
MEDLINE 96197355  
AUTHORS 2 (bases 1 to 896)  
Olsson, B., Pajusola, K., von Euler, G., Chllov, D., Allitalo, K. and  
Eriksson, U.  
TITLE Genomic organization of the mouse and human genes for vascular  
endothelial growth factor B (VEGF-B) and characterization of a  
second splice isoform  
J. Biol. Chem. 271 (32), 19310-19317 (1996)  
JOURNAL 96325041  
AUTHORS 3 (bases 1 to 896)  
Eriksson, U., Allitalo, K., Olsson, B. and Pajusola, K.  
TITLE Direct Submission  
Submitted (27-MAR-1996) Ulf Eriksson, Ludwig Institute for Cancer  
Research, Karolinska Institutet, Doktorsträngen 12A, Stockholm S-171  
77, Sweden

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RESULT 4  
LOCUS MM043836 1236 bp mRNA ROD 04-DEC-1996  
DEFINITION Mus musculus VEGF-related factor mvr186 precursor mRNA, complete  
cde.  
ACCESSION U43836  
NID g1703460  
KEYWORDS  
SOURCE house mouse.  
ORGANISM Mus musculus  
Eukaryotes; Euthera; Rodentia; Sciurognathi; Muridae; Murinae;  
Murinae; Mus.  
REFERENCE 1 (bases 1 to 1236)  
AUTHORS Townsend, S., Lagercrantz, J., Grimmond, S., Sillis, G.,  
Nordenskjold, M., Weber, G. and Hayward, N.  
TITLE Characterization of the murine VEGF-related factor gene  
JOURNAL Blochem. Biophys. Res. Commun. 220 (3), 922-928 (1996)  
MEDLINE 96183052  
AUTHORS 2 (bases 1 to 1236)  
Hayward, N.K.





LOCUS	8	136626	565 bp	DNA	PAT	13-MAR-1997
DEFINITION	Sequence	4 from patent	US 5607918.			
ACCESSION	136626					
NID	92086451					
KEYWORDS						
SOURCE	Unknown.					
ORGANISM	Unknown.					
REFERENCE	1 (bases 1 to 565)					
AUTHORS	Eriksson,U., Olofsson,B., Altalo,K. and Pajusola,K.					
TITLE	Vascular endothelial growth factor-B and DNA coding therefor					
JOURNAL	Patent: US 5607918-A 4 04-MAR-1997;					
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DEFINITION	Mus musculus VEGF-related factor mvrfl67 precursor mRNA, complete cds.					
ACCESSION	U43837					
NID	91314535					
KEYWORDS						
ORGANISM	house mouse.					
SOURCE	Mus musculus					
ORGANISM	Eukaryote; mitochondrial eukaryotes; Metazoa; Chordata; Vertebrata; Eutheria; Rodentia; Sclurognathi; Myomorphia; Muridae; Murinae; Mus.					
REFERENCE	1 (bases 1 to 567)					
AUTHORS	Townson,S., Lagercrantz,J., Grimmond,S., Silins,G., Nordenskjold,M., Weber,G. and Hayward,N.					
TITLE	Characterization of the murine VEGF-related factor gene					
JOURNAL	Biochem. Biophys. Res. Commun. 220 (3), 922-928 (1996)					
MEDLINE	96183052					
REFERENCE	2 (bases 1 to 567)					
AUTHORS	Hayward,N.K.					
TITLE	Direct Submission					
JOURNAL	Submitted (21-DEC-1995) Nicholas K. Hayward, Joint Experimental Oncology Unit, Queensland Institute of Medical Research, Bancroft Centre, 300 Herston Rd, Herston, Brisbane, Queensland, 4029,					

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Query Match 42.8%; Score 285; DB 28; Length 567;  
Best Local Similarity 90.1%; Pred. No. 1.61e-191;  
Matches 320; Conservative 0; Mismatches 35; Indels 0; Gaps 1;

Db 56 CCNAGGCCCGTGGTCCAGTTGTATGGCCCGCCAGCCAGCAAGAAAGNGTGCATGCA 117  
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Db 116 TAGACGTTATGCAAGTGCACATATCCAGCCAGGAGAGTGTGTCTGCTGACATGG 175  
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Db 176 AATCATGCGCAATGTGTCACACACTAGTGGCCAGCTGTGTACTGTGACGCGCTGTG 235  
QY 173 AGCTCATGGGACCGGTGGCCAAACAGCTGTGTGCCAGCTGTGACTGTGACGCGCTGTG 232  
Db 236 GTGGTGTGCTGGCCAGCATGAGCTGGATGGATGGTGGCCAGTGGGCAACACCAAGTCGAA 295  
QY 233 GTGGTGTGCTGGCCAGCATGAGCTGGATGGTGGTGGCCAGTGGGCAACACCAAGTCGAA 292  
Db 296 TGCAGATCCTCATGATCCAGTACCCGAGCAGTCAAGCTGGGGAGATGTCCCTGGAAGAC 355  
QY 293 TGCAGATCCTCATGATCCGATCCGATCCGAGCAGTCAAGCTGGGGAGATGTCCCTGGAAGAC 352  
Db 356 ACAGCCAAATGTGAATGCAGACCAAAAAAAGAGAGTGTGTGAGCCAGACAG 410  
QY 353 ACAGCCAAATGTGAATGCAGACCAAAAAAAGAGAGTGTGTGAGCCAGACAG 407

RESULT 10  
LOCUS M048800 795 bp mRNA ROD 19-AUG-1996  
DEFINITION Mus musculus vascular endothelial growth factor B precursor  
ACCESSION U48800  
NID 048800  
KEYWORDS g1234824  
SOURCE house mouse.  
ORGANISM Mus musculus  
Eukaryote; Eukaryotes; Metazoa; Chordata;  
Vertebrata; Mammalia; Rodentia; Sciurognathi; Myomorpha; Muridae;  
Murinae; Mus.  
1 (bases 1 to 795)  
Olofsson, B., Palusola, K., Kaipainen, A., von Euler, G., Joukov, V.,  
Skarsela, O., Orpana, A., Pettersson, R.F., Allitalo, K. and Eriksson, U.  
Vascular endothelial growth factor B, a novel growth factor for  
endothelial cells  
Proc. Natl. Acad. Sci. U.S.A. 93 (6), 2576-2581 (1996)  
6619735

REFERENCE 2 (bases 1 to 795)  
AUTHORS Eriksson,U., Olofsson,B., Alltalo,K. and Pajusola,K.  
TITLE Direct Submission  
JOURNAL Submitted (08-FEB-1996) Ulf Eriksson, Ludwig Institute for Cancer Research, Karolinska Institutet, Doktoraringen 12a, Stockholm, S-171 77, Sweden  
Location/Qualifiers

FEATURES  
Source 1..795  
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/dev\_stage="adult"  
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95..661  
CDS  
/gene="VEGF-B"  
/note="forms disulfide linked homodimers; forms disulfide linked heterodimers with VEGF; binds heparin"  
/codon\_start=1  
/product="vascular endothelial growth factor B precursor"  
/db\_xref="PID:g1234825"  
/translation="MSPILRLILVALQLARTQAPVSOFPDPSHOKVPMIDYARATCOPEVYVPLSMELMGVNVKOLVPSCTVORGGCCPDGECVPTGQORVMOTLMIQYPSQIGEMSLSEHSQCECRKRKESAVKPSRILCPCTQRORPDRICRRCRRRFLHCOGRGELNPDTCRKRPRK"  
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158..658  
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BASE COUNT 154 a 270 c 234 g 137 t  
ORIGIN

Query Match 42.8% Score 285; DB 28; Length 795;  
Best Local Similarity 90.1% Pred. No.1.61e-191;  
Matches 320; Conservative 0; Mismatches 35; Indels 0; Gaps 0;

Db 150 CCCAGCCCCCTGTGTGCCAGTTTGATGGCCCCCAGCCACGAAAGTGTGCATGGA 209  
Oy 53 CCCAGCCCCCTGTGTGCCAGTTTGATGGCCCCCAGCCACGAAAGTGTGCATGGA 112  
Db 210 TAGAGCTTTATGACAGTGGCCACATGCCAGCCAGGAGGTGTGTGCTCTGACATGG 269  
Oy 113 TAGATGTATATCTGCCCTTACCTGCACGCCCGGAGGTGTGTGCTGTGACTGTGG 172  
Db 270 AACTCATGGCAATGTGTGCAACAACATAGTACCCAGCTGTGTGACTGTGACGCCCTGG 329  
Oy 173 AGCTATATGGGACCGCTGGCCAAACAGCTGTGTGCCAGCTGCCTGTGACGCCCTGTG 232  
Db 330 GTGGCTGTGCCCTGACGATGAGTGTGTGCCCACTGGGCAACACCAAGTCCGAA 389  
Oy 223 GTGGCTGTGCCCTGACGATGAGTGTGTGCCCACTGGGCAACACCAAGTCCGAA 292  
Db 390 TGCACATCTCTATGATCCAGTACCCGAGCAGTCACTGGGGAGATGTCCCTGGAAGAAC 449  
Oy 293 TGCACATCTCTATGATCCAGTACCCGAGCAGTCACTGGGGAGATGTCCCTGGAAGAAC 352  
Db 450 ACAGCAATGTGAATGACAGACCAAAAAAAGAGAGAGTGTGAAGCCAGACAG 504  
Oy 353 ACAGCAATGTGAATGACAGACCTAAAAAAGAGAGAGTGTGAAGCCAGACAG 407

RESULT 11 AF032925 349 bp mRNA ROD 23-NOV-1997  
LOCUS Rattus norvegicus vascular endothelial growth factor B 186  
DEFINITION Rattus norvegicus vascular endothelial growth factor B 186  
ACCESSION AF032925  
NID g2641621  
KEYWORDS Norway rat.  
SOURCE Eularyotae: Metazoa: Chordata: Vertebrata; Mammalia; Eutheria; Rodentia: Sciurognathi; Muridae; Murinae; Rattus.

REFERENCE 1 (bases 1 to 349)  
AUTHORS Mandriota,S.J. and Pepper,M.S.  
TITLE Direct Submission  
JOURNAL Submitted (03-NOV-1997) Morphology, University Medical Center, rue Michel Servet, 1211 Geneva 4, Switzerland  
Location/Qualifiers

FEATURES  
Source 1..349  
/organism="Rattus norvegicus"  
/strain="Sprague-Dawley"  
/db\_xref="taxon:10116"  
/tissue\_type="placenta"  
/note="RT-PCR product amplified from total RNA from rat placenta, using degenerate oligonucleotides; sequenced on both strands"  
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CDS  
/note="vascular endothelial growth factor-related factor (VRF) 186 precursor; VEGF-B 186 precursor"  
/codon\_start=2  
/product="vascular endothelial growth factor B 186 precursor"  
/db\_xref="PID:g2641622"  
/translation="EYVYVPLSMELMGVNVKOLVPSCTVORGGCCPDGECVPTGQORVMOTLMIQYPSQIGEMSLSEHSQCECRKRKESAVKPSRILCPCTQRORPDRICRRCRRRFLHCOGRGELNPDTCRKRPRK"  
WDSAPGSSPADIIT"

BASE COUNT 78 a 99 c 104 g 68 t  
ORIGIN

Query Match 42.2% Score 281; DB 28; Length 349;  
Best Local Similarity 90.5% Pred. No.2.17e-188;  
Matches 314; Conservative 0; Mismatches 33; Indels 0; Gaps 0;

Db 1 GGAGTGTGTGTACTCTGACATGAGACTGATGGTATGTGTCAACAACACTGTGCC 60  
Oy 147 GGAGTGTGTGTGCGCTTACTGTGAGACTCATGGGACCGTGGCCAAACAGCTGTGCC 206  
Db 61 CAGCTGTGTACTGTGACGCCCTGTGTGTGCTGTGTCTTACATGAGATGGCTGTG 120  
Oy 207 CAGCTGTGTACTGTGACGCCCTGTGTGTGCTGTGTCTTACATGAGATGGCTGTG 266  
Db 121 GCCATTGGGCAACACAGTCGGAATGCATGATGCATGATGCATGATGCATGATGCATG 180  
Oy 267 GCCACTGTGGAGACACAGTCGGAATGCATGATGCATGATGCATGATGCATGATGCATG 326  
Db 181 GCTGGGGAGATGTCTCTGGAAGAACAAGCAATGTGAATGCAGACCAAAAAAGAGGGA 240  
Oy 327 GCTGGGGAGATGTCTCTGGAAGAACAAGCAATGTGAATGCAGACCTAAAAAAGAGGGA 386  
Db 241 GAGTGTGTGAAGCCAGACAGGAGTGTGCCATACCCACACCGTCCAGGCCCTGTGT 390  
Oy 387 CAGTGTGTGAAGCCAGACAGGAGTGTGCCATACCCACACCGTCCAGGCCCTGTGT 446  
Db 301 TCTGAGCTGGAGACTGTGCCCGGGAGACATCTCCCGAGCTGACATCA 347  
Oy 447 TCCGGGCTGGAGACTGTGCCCGGGAGACATCTCCCGAGCTGACATCA 493

RESULT 12 136628 405 bp DNA PAT 13-MAR-1997  
LOCUS Sequence 8 from patent US 5607918.  
DEFINITION Sequence 8 from patent US 5607918.  
ACCESSION 136628  
NID g2086453  
KEYWORDS Unknown.  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 405)  
AUTHORS Eriksson,U., Olofsson,B., Alltalo,K. and Pajusola,K.  
TITLE Vascular endothelial growth factor-B and DNA coding thereof.  
JOURNAL Patent: US 5607918-A 8 04-MAR-1997;  
FEATURES Location/Qualifiers  
Source 1..405  
BASE COUNT 93 a 113 c 120 g 79 t







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RESULT 15  
LOCUS 136627 591 bp DNA PAT 13-MAR-1997  
DEFINITION Sequence 6 from patent US 5607918.  
ACCESSION 136627  
NID 92086452  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
REFERENCE 1 (bases 1 to 591)  
AUTHORS Eriksson,U., Olofsson,B., Allitalo,K. and Pajusola,K.  
TITLE Vascular endothelial growth factor-B and DNA coding therefor  
JOURNAL Patent: US 5607918-A 6 04-MAR-1997;  
FEATURES  
source 1..591  
location/Qualifiers  
BASE COUNT 126 a 186 c 174 g 105 t  
ORIGIN  
Query Match 27.5%; Score 183; DB 21; Length 591;  
Best Local Similarity 87.3%; Pred. No. 2,06e-112;  
Matches 214; Conservative 0; Mismatches 31; Indels 0; Gaps 0;  
Db 59 CCCAGGCCCTGTGTCCAGTTTATGAGCCGCCACACAGAGAAAGTGTGCCATGA 118  
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QY 53 CCCAGGCCCTGTGTCTCCAGCTGTATGCCCTG6CCACAGAGAAAGTGTGTATGA 112  
Db 119 TAGACGTTTATGACAGTGCACATGCCAGGCCAGGAGGTGTGTGCTGTGAGCATGG 178  
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QY 113 TAGATGTGTATACTCGCGCTACTGCGAGCCCGGAGGTGTGTGCTTGTACTGTGG 172  
Db 179 AACTCATGGGCAATGTGTGCAAACTAGTGTGCTGTGTGCTGTGAGCGCTGTG 238  
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QY 173 AGCTCATGGGCAAGCGTGCACAACTAGTGTGCTGTGTGCTGTGAGCGCTGTG 232  
Db 239 GTGGCTGCTGCTGAGCATGGCTGTGATGTGTGCTGCTGCTGCTGCTGCTGCTG 298  
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QY 233 GTGGCTGCTGCTGCTGAGCATGGCTGTGATGTGTGCTGCTGCTGCTGCTGCTG 292  
Db 299 TGCAG 303  
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QY 293 TGCAG 297

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